
Training Manual

Diagnostic and Troubleshooting

SCC Line SelfCooking Center - Combi Master



Training Manual

Diagnostic and Troubleshooting

SCC Line

Edition 11-2006

General hints:

Isolate the appliance from mains supply
before opening the appliance

When working with chemicals, i.e. aggressive cleaning materials
always wear protective clothing, goggles and gloves!

After maintenance / repair the appliance must be checked for electric safety
in accordance with your national, state and local requirements!



Whenever working on any gas component like: Gas valve, gas blower
and / or changing connected type of gas a detailed
flue gas analysis **MUST** be done using adequate
CO and CO₂ measuring equipment!
This shall **ONLY** be done by trained technicians!
Always check appliance for possible gas leakages!

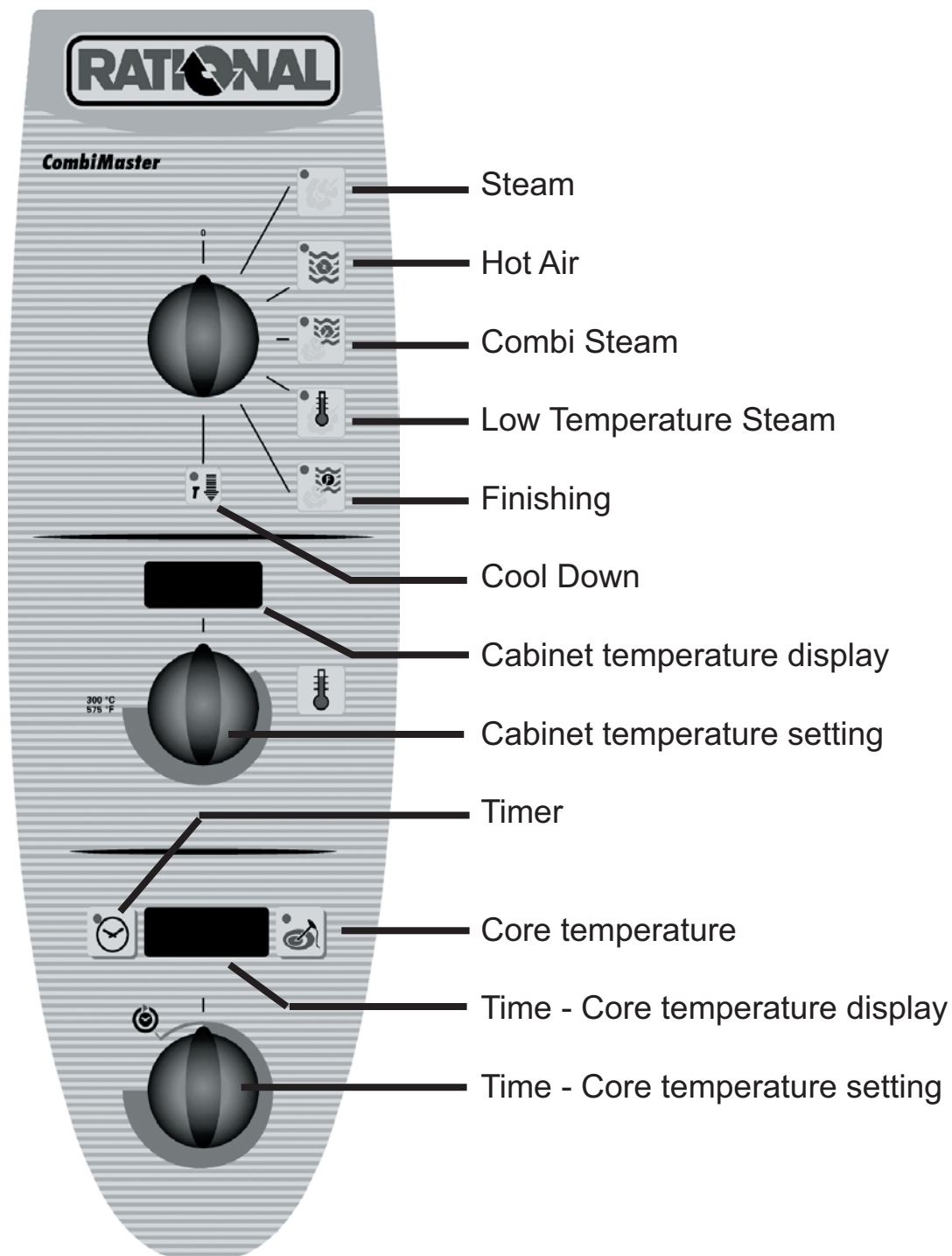
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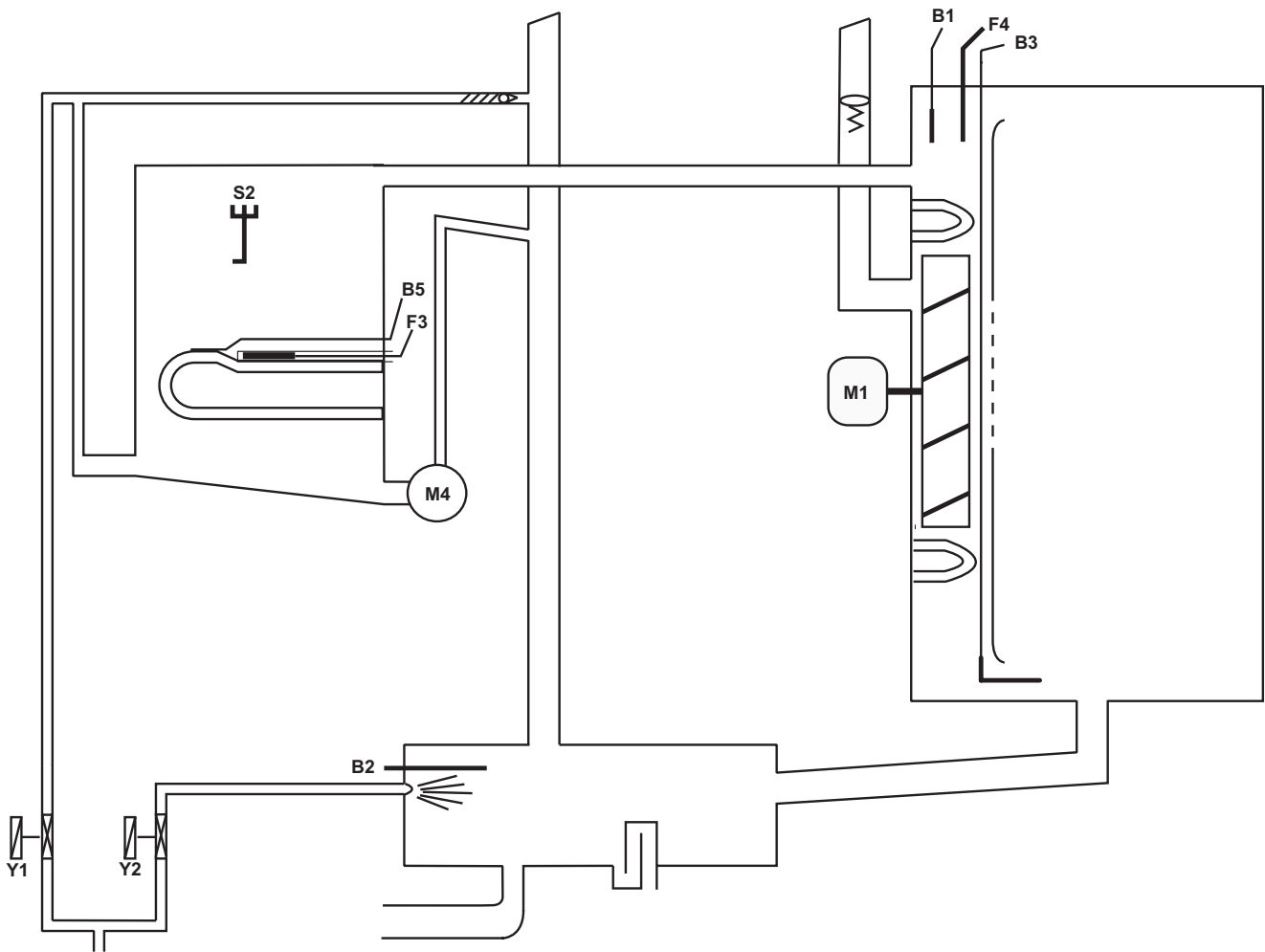
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CM Technique from 04 - 2004



CM Technique from 04 - 2004

C
M



- B1 Thermocouple cabinet
- B2 Thermocouple quenching / Steam control
- B3 Thermocouple core temperature
- B5 Thermocouple steam generator (preheating, 180°C (356°F) max)

- F3 Safety temperature limiter steam generator 160°C
- F4 Safety temperature limiter cabinet 360°C

- Y1 Solenoid valve filling
- Y2 Solenoid valve quenching

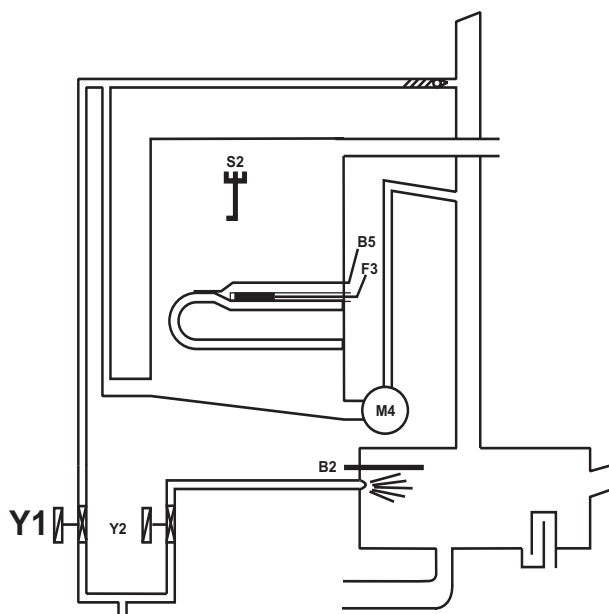
- M1 Fan motor (without jumper)
- M4 SC-pump

- S2 Level electrode

CM 201/202 only:

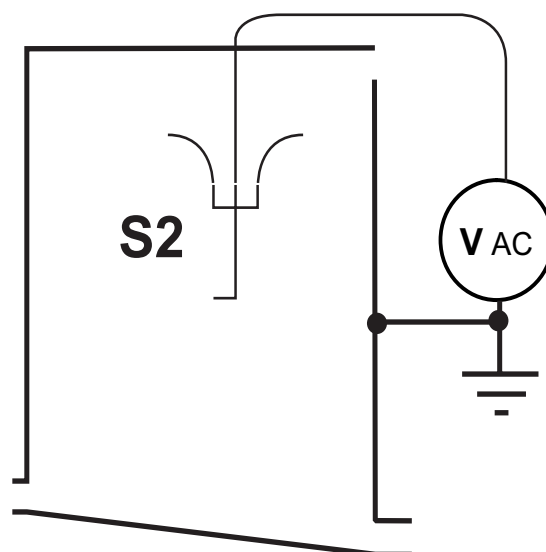
- M2 Fan motor top (with jumper)

Water level control Steam Generator



Center S2 ==> Ground:

2 - 6V AC:



water level too low
steam heating must switch OFF
solenoid valve filling Y1 ON

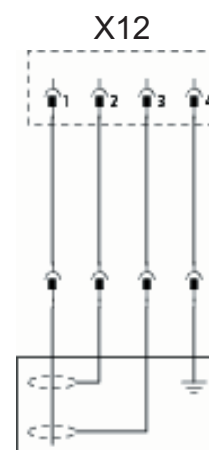
Center S2 ==> Ground:

0V AC:

water level reached
steam heating can switch ON
solenoid valve filling Y1 switched OFF

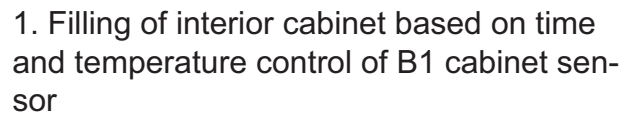
Every 2 minutes steam elements will switch off for water level control

Notes:



CM

CM



3. Depending on the frequency of temperature raise of the quenching sensor B2 the duration of the next steam supply is calculated.



4. The amount of steam inside the cabinet is directly depending on the temperature variation of quenching sensor B2.

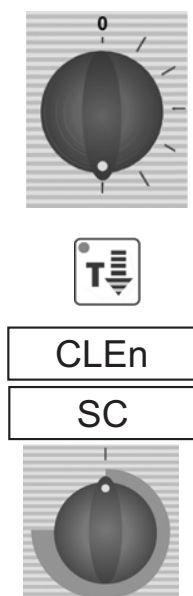
Key code CM from 04 - 2004

1. Cleaning program



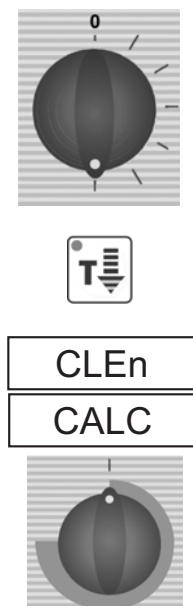
- A) Cool down cabinet below 60°C
- B) Spray inside cabinet with Rational cleaner
- C) Close cabinet door
- D) Select „Cool Down“
- E)  Press core temperature key for 10 sec.
- F) „CLEn“ will show in cabinet temperature display
- G)  Press timer key 1x; Cleaning program starts automatically (open cabinet door and rinse interior cabinet after 40 min.)
Close door again. Since Software version C1-06-05 a 10 min step hot air will follow to dry the interior cabinet.)
- H) After end of program, leave cabinet door open over night.

2. Empty steam generator



-  This should be done after each installation to verify free drain connection and before disconnection the unit for storage.
- A) Open cabinet door
- B) Select „Cool Down“
- C)  Press core temperature key for 10 sec.
- D) „CLEn“ will be shown in cabinet temperature display
- E) Select „SC“ with temperature dial
- F) Close water tap
- G)  Press timer key 1x and remain on „Cool Down“ position for about 45 sec.

3. Select descaling program



-  Open cabinet door
- B) Select „Cool Down“
- C)  Press core temperature key for 10 sec.
- D) „CLEn“ will be shown in cabinet temperature display
- E) Select „CALC“ with temperature dial
- F)  Press timer key 1x and follow procedure of the decalcification instruction. (See user manual CM).

Key code CM from 04 - 2004

C
M

4. Changing temperature display from °C to °F



A)

Select any mode



C)



Press timer and core temperature key simultaneously for 10 sec. until ==>



D)

Display changes from °C to °F or vice versa

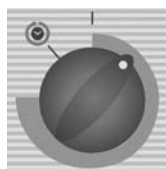


E)

Release both keys



100°C
212°F

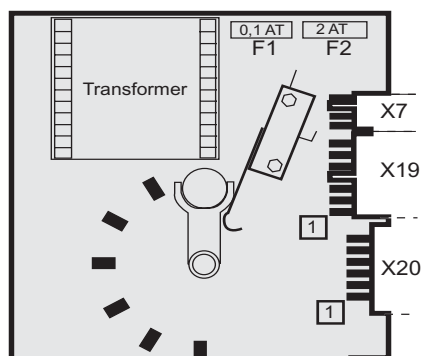


Notes:

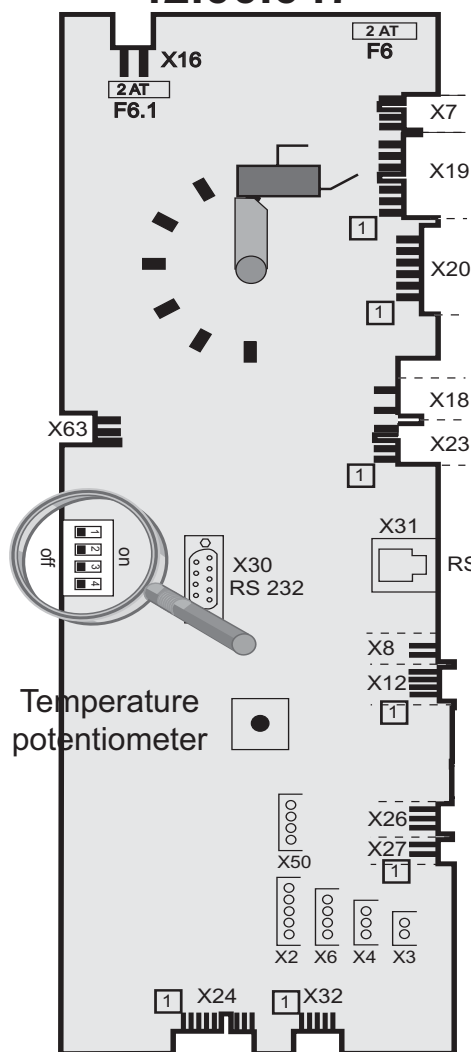
CM PCB (42.00.004) from 04-2004

CM PCB (42.00.047) from 02-2006 (without transformer)

42.00.004



42.00.047

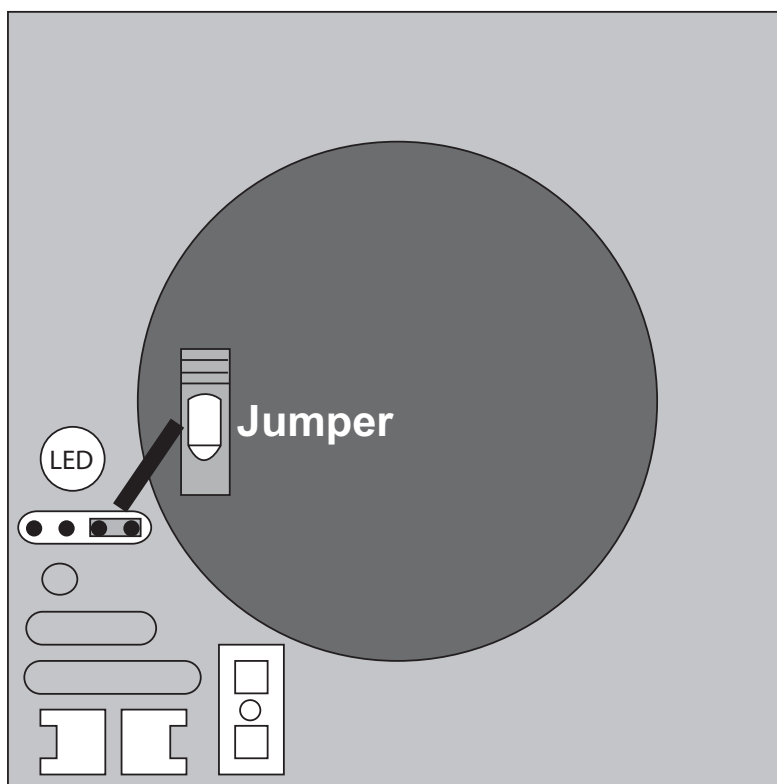


- X2 B3 Core temperature
- X3 B1 Interior cabinet
- X4 B2 Quenching / Steam control
- X6 B5 Steam generator
- X7 ON - OFF switch
- X8 Buzzer
- X12 Level electrode
- X 16 power supply from transformer (**42.00.047**)
- X18 SC - pump
- X19 Solenoid valves
- X20 Energy optimising / Sicotronic
- X23 Vent hood (signal door open / closed)
- X24 SSR
- X26 SSR pulsing (USA version only)
- X27 Door contact switch
- X30 Serial interface (RS232)
- X31 BUS interface
- X32 Timer / Core Temp. Potentiometer
- X50 external EEPROM
- X63 Not used
- 1 Counting sequence

Notes: Since February 2006 PCB 42.00.004 is replaced by 42.00.047.
(Conversion kit: 87.00.139, pls. see Technical info 04-06)

The transformer on the new PCB 42.00.047 is no more existing and replaced by external transformer 40.00.227

Motor for CM 40.00.274



Jumper 40.01.581 is used on floor model 201 and 202 for top position motor only!

Jumper is not used on models 61 - 102 with one motor only! (Service 34 will be shown!)

LED code fan motor SCC and CM from 04/2004

	Reason	Remedy
1x	Motor doesn't start, no changing signal from hallsensor	Check for motor blockage or change motor.
2x	Voltage too low on motor pcb	Check supply voltage or change motor.
3x	Voltage too high on motor pcb	Check supply voltage or change motor.
4x	rpm measurement defective	Change motor.
5x	Motor pcb temperature >105°C	Check cooling system (cooling fan, air intake filter), otherwise change motor
6x	Supply voltage <80V	Check power supply (F1-F2)
7x	Motor pcb defective	Change motor.
8x	Motor pcb defective	Change motor.

Mode: Steam 100°C (212°F)
Temp. preset, not adjustable



... denn der Unterschied liegt im Detail!

Function Step	Responsible sensor	Signal	Remark
1 Select Steam mode			
2 Select time or core temperature			
3 Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4 Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-3)
5 Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Heating off, if B5 > 180°C (356°F)
6 Timer starts after successful preheating	Logic on PCB		Blinking dot in timer
7 Steam supply up to steam saturation inside cabinet	Quenching sensor B2 (Steam control)	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Steam saturation is calculated by quenching duration and rate
8 Hot Air supply (only 50%) when set temperature (100°C/212°F) can not be reached in time by Steam alone	Cabinet sensor B1	SSR active: 12VDC X24:(7-8) SSR not act.: 0VDC X24:(7-8) Gas units: Bus signal	Decision of Hot Air supply by PCB logic
9 Quenching (set to 70°C/158°F)	Quenching sensor B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 active: 230VAC X19:(2-4) Y2 not act.: 0VAC X19:(2-4)

Mode: Low temperature steam
Temp. range
30-99°C (86-210°F)



Function Step

Responsible sensor

Signal

Remark

1	Select vario steam mode (Temp. setting 30-99°C (86-210°F))	Note: Below 100°C (212°F) fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-3)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot in timer
7	Steam supply until set temperature inside cabinet is reached	Cabinet sensor B1	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Blinking dot in timer display
8	Hot Air supply (only 50%) when set temperature can not be reached in time by Steam alone	Cabinet sensor B1	SSR active: 12VDC X24:(7-8) SSR not act.: 0VDC X24:(7-8) Gas units: Bus signal	Decision of Hot Air supply by PCB logic
9	Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 active: 230VAC X19:(2-4) Y2 not act.: 0VAC X19:(2-4)

Mode: Combination
Temp. range
30-300°C (86-572°F)



Function Step

Responsible sensor

Signal

Remark

1	Select Combination mode (Temp. 30-300°C (86-572°F))	Note: Below 100°C (212°F) fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-3)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot in timer
7	Hot Air supply until set temperature inside cabinet. Hot air has priority	Cabinet sensor B1	SSR active: 12VDC X24:(7-8) SSR not act.: 0VDC X24:(7-8) Gas units: Bus signal	Hot air supply active, until set temperature is reached
8	Steam supply up to steam saturation inside cabinet	Quenching sensor B2 (Steam control)	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Steam saturation is calculated by quenching duration and rate
9	Quenching (set to 70°C/158°F)	Quenching sensor B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 active: 230VAC X19:(2-4) Y2 not act.: 0VAC X19:(2-4)

Mode: Finishing
Temp. range
30-300°C (86-572°F)



Function Step

Responsible sensor

Signal

Remark

1	Select Finishing (Recom. Temp. 100-140°C (212-284°F))	Note: Below 100°C (212°F) fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-3)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot in timer
NOTE: For initial heating of cabinet => alternately energy supply of Hot Air and Steam (Electric 12/6 sec, Gas 30/15 sec)				
7	Hot Air supply Electric units: 12 sec on - 6 sec off Gas units: 30 sec on - 15 sec off	Cabinet sensor B1	SSR active: 12VDC X24:(7-8) SSR not act.: 0VDC X24:(7-8) Gas units: Bus signal	Hot air supply active, until set temperature is reached
8	Steam supply Electric units: 6 sec on - 12 sec off Gas units: 15 sec on - 30 sec off	Quenching sensor B2 (Steam Control)	SSR active: 12VDC X24:(1-2)+(5-6) SSR not act.: 0VDC X24:(1-2)+(5-6) Gas units: Bus signal	Steam saturation is calculated by quenching duration and rate
9	Quenching (set to 70°C/158°F)	Quenching sensor B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 active: 230VAC X19:(2-4) Y2 not act.: 0VAC X19:(2-4)

Mode: Hot Air
Temp. range
30-300°C (86-572°F)



Function Step

Responsible sensor

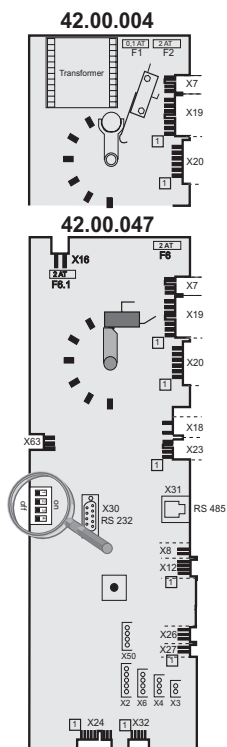
Signal

Remark

1	Select Hot Air (Temp. 30-300°C (86-572°F))	Note: Below 100°C (212°F) fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Timer starts at once	Logic on PCB		Blinking dot in timer display
5	Hot Air supply until set temperature inside cabinet is reached	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not act.: 0VDC X24:(7-8)+(3-4)	
6	Quenching (set to 90°C/194°F)	Quenching sensor B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 active: 230VAC, X19:(2-4) Y2 not act.: 0VAC, X19:(2-4)

Service level CM from 04 - 2004

CM



- A)  Switch unit ON
- B)  On operator PCB set DIP switch 1 to „ON“ position
- C)  Select service package with timer dial:

dP

Diagnostic Program

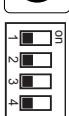
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Error code history

rt

Running times

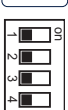
SE

Basic settings
- D)  Activate with core temperature key the desired service package
- E)  Select with timer dial the desired step
- F)  Activate selected step by pressing timer key
- G)  To de-activate service package set DIP switch 1 to „OFF“ position.

Function Test

- A)  Switch unit ON
- B)  On operator PCB set DIP switch 3 to „ON“ position
- C)

F1

 First step of function test is displayed
- D)  Select desired step of function test with timer dial
- E)  Activate selected step by pressing timer key
- F)  Activate selected step with core temperature key
- G)  To de-activate function test set DIP switch 3 to „OFF“ position.

Notes:

Service level: dP -- Diagnostic Program

dP #	Description	Connector	Cabinet display	Timer display	Comment
dP 1	Software Version		Software version: C - 1 -	Software Version:06.05	
dP 2	B1 Cabinet sensor	X 3	actual value	max value	Reset by pressing for 5 sec.  + 
dP 3	B2 Quenching sensor	X 4	actual value	max value	Reset by pressing for 5 sec.  + 
dP 4	B3 Core sensor	X 2	actual value	max value	Reset by pressing for 5 sec.  + 
dP 5	B5 Steam generator sensor	X 6	actual value	max value	Reset by pressing for 5 sec.  + 
dP 6	PCB temperature		actual value	max value	Reset by pressing for 5 sec.  + 
dP 7	S3 Door contact	X27:(1-2)	S3: 1 - 0	1 - 0	
dP 8	S2 Water level steam generator	X12:(1-4) S2 X19:(1-3) Y1		Y1: 1 - 0	
dP 9	Steam elements 0 - off; 1 - 50%; 2 - 100%		Temp. B5	0 - 1 - 2	
dP 10	Hot Air elements 0 - off; 1 - 50%; 2 - 100%		Temp. B1	0 - 1 - 2	
dP 11	Speed fan motor top	BUS	Set rpm	actual rpm	
dP 12	Speed fan motor bottom	BUS	Set rpm	actual rpm	
dP 13	Energy optimising (Sicotronic)	X 20		1 - 0	
dP 14	SSR pulsing (US version)	X 26		1 - 0	USA version only
dP 15	Unit size and type		61 - 202	ELE - GAS	
dP 16	Flame Current Steam			x.x µA*	since SW Version: C1-06-05 (flame current)
dP 17	Flame Current Hot Air top			x.x µA*	since SW Version: C1-06-05 (flame current)
dP 18	Flame Current Hot Air bottom			x.x µA*	since SW Version: C1-06-05 (flame current)

* With SW Version C1-06-05 the flame current will show as 20-24µA
 (This value must be divided by 4 to get the correct flame current e. g. 22:4 = 5,5µA.)
 Starting with SW version C1-07-01 the actual flame current is shown .

Service Level: rt -- Running Time

rt #	Description	Timer display: 1-999 Temp. display: >1000	Comment
rt 1	Total S3 door openings	number	Reset by pressing  +  for 5 sec.
rt 2	Total time Y1 valve filling	min	Reset by pressing  +  for 5 sec.
rt 3	Total time Y2 valve quenching	min	Reset by pressing  +  for 5 sec.
rt 4	Total time M4 SC-pump	min	Reset by pressing  +  for 5 sec.
rt 5	Total time steam heating time	hrs	Reset by pressing  +  for 5 sec.
rt 6	Total time hot air heating time	hrs	Reset by pressing  +  for 5 sec.
rt 7	Total time steam mode	hrs	Can not be reset
rt 8	Total time hot air mode	hrs	Can not be reset
rt 9	Total time combination mode	hrs	Can not be reset
rt 10	Total time vario steam mode	hrs	Can not be reset
rt 11	Total time finishing mode	hrs	Can not be reset
rt 12	Total time cleaning program	hrs	Can not be reset
rt 13	Total running time unit	hrs	Can not be reset

Notes:

Service level: SE -- Basic settings



Select desired step with timer dial
(fan motor and heating elements are automatically OFF)



Activate selected step with timer key

SE 1 Steam heating time since last SC-Automatic



Press time and core key simultaneously for 5 seconds to set steam heating time to preset steam heating time plus 1 minute ==> test function for SC-Automatic

SE 2 Preset Steam heating time until SC-Automatic
(default 45min)



+



Press time key and adjust preset steam heating time from 20 - 120 minutes with timer dial

SE 3 Flushing time SC-Automatik
(default 45 seconds)



+



Press time key and adjust flushing time of SC-automatik from 30 - 90 seconds with timer dial

SE 4 Operation steam generator pump
(**oFF** - continuous or **on** - pulsing)



+



Press time key and select „on“ or „oFF“ with timer dial

SE 5 Show mode (on - oFF) SHO



+



Press time key and select „on“ or „oFF“ in with timer dial

SE 6 Setting new gas type (G20, G25, G30, G31, 13A)



+



Press time key, keep it pressed and select new gas type with timer dial
Confirm new gas type by pressing core temperature key once
NOTE: After changing gas type a waste gas analysis must be carried out in the function test. Corresponding gas blower speed is automatically adjusted

SE 7 Presetting of CO₂ screw on gas valve after gas type modification / changing gas valve



+



Press time key, keep it pressed and select with timer dial "ST" for steam, "HA1" for hot air top or "HA2" for hot air bottom (only 201/202) with timer dial;
Average lenght in mm of CO₂ screw on gas valve is shown on timer display

SE 8 Adjustment of installation altitude above sea level (since SW C1-06-05)
-500- -1m, 0-999m, 1000-1499m, 1500-1999m, 2000-2499m, 2500-2499m, 3000-3499m, 3500-3499m, 4000-4499m, 4500-4499m



+

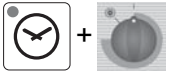


Press time key, keep it pressed and select installaton altitude in 500m steps by timer dial. Confirm altitude setting by pressing simultaneously core temperature key once.

Service Level: SE -- Basic settings

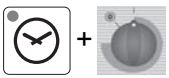
C
M

SE 9,10,11  Adjusting speed of blower motor steam (+/-10%)
(After blower speed adjustment the original rpm is shown in the temp. display, the changed rpm is shown in the time display)



Press time key, keep it pressed and adjust displayed rpm with timer dial
SE9 = MIN rpm; SE10 = Start rpm; SE11 = MAX rpm
Always check CO₂ values of MAX rpm and MIN rpm in function test

SE 12,13,14  Adjusting speed of blower motor hot air top (+/-10%)
(After blower speed adjustment the original rpm is shown in the temp. display, the changed rpm is shown in the time display)



Press time key, keep it pressed and adjust displayed rpm with timer dial
SE12 = MIN rpm; SE13 = Start rpm; SE14 = MAX rpm
Always check CO₂ values of MAX rpm and MIN rpm in function test

SE 15,16,17  Adjusting speed of blower motor hot air bottom (+/-10%)
(After blower speed adjustment the original rpm is shown in the temp. display, the changed rpm is shown in the time display)



Press time key, keep it pressed and adjust displayed rpm with timer dial
SE15 = MIN rpm; SE16 = Start rpm; SE17 = MAX rpm
Always check CO₂ values of MAX rpm and MIN rpm in function test

Notes:

Service level: F -- Function test

NOTE: In Function test components are NOT protected against overload!

	Function	Connection I/O PCB	Cabinet Display	Time Display	Comment
F1	Steam 50%, Electric unit	X24:(1-2)	actual temp. B5 steam gene- rator	1 / 0	Gas: no function
F2	Steam 100%, Electric unit	X24:(1-2)+(5-6)	actual temp. B5 steam gene- rator	1 / 0	Gas: no function
F3	Hot Air 50%, Electric unit	X24:(7-8)	actual temp. B1 cabinet	1 / 0	Gas: no function
F4	Hot Air 100%, Electric unit	X24:(7-8)+(3-4)	actual temp. B1 cabinet	1 / 0	Gas: no function
F5	Steam, Gas unit	BUS	actual temp. B5 steam generator	1 / 0	Electric: no function
F6	Hot Air Top, Gas unit	BUS	actual temp. B1 cabinet	1 / 0	Electric: no function
F7	Hot Air Bottom, Gas unit	BUS	actual temp. B1 cabinet	1 / 0	Electric: no function
F8	Bottom Motor MAX speed	BUS	Set rpm	Act. rpm	
F9	Bottom Motor MIN speed	BUS	Set rpm	Act. rpm	
F10	Top Motor MAX speed	BUS	Set rpm	Act. rpm	
F11	Top Motor MIN speed	BUS	Set rpm	Act. rpm	
F12	Solenoid valve quenching	X19:(2-4)	actual temp. B2 quenching	Y2 1 / 0	
F13	Solenoid valve filling	X19:(1-3)	Level electrode S2, 1 / 0	Y1 1 / 0	
F14	Steam generator pump	X18:(1-2) M4 X12:(1-4) S2	Level electrode S2, 1 / 0	M4 1 / 0	
F15	Buzzer			1 / 0	
F16	All Displays / LED				
F17	Relais Vent hood UltraVent (door open/close)	X 23: (1-2-3)		1 / 0	
F18	no function				

Service level: F -- Function test

NOTE: In Function test components are NOT protected against overload!

F #	Function	Connection I/O PCB	Cabinet Display	Time Display	Comment
F19	Steam blower motor MIN rpm	BUS	Actual blower rpm	Set CO ₂ value	Check CO ₂ value only
F20	Steam blower motor Start rpm	BUS	Actual blower rpm		
F21	Steam blower motor MAX rpm	BUS	Actual blower rpm	Set CO ₂ value	Adjust CO ₂ value with CO ₂ screw on gas valve
F22	Hot air blower motor, top MIN rpm	BUS	Actual blower rpm	Set CO ₂ value	Check CO ₂ value only
F23	Hot air blower motor, top Start rpm	BUS	Actual blower rpm		
F24	Hot air blower motor, top MAX rpm	BUS	Actual blower rpm	Set CO ₂ value	Adjust CO ₂ value with CO ₂ screw on gas valve
F25	Hot air blower motor, bottom, MIN rpm	BUS	Actual blower rpm	Set CO ₂ value	Check CO ₂ value only
F26	Hot air blower motor, bottom, Start rpm	BUS	Actual blower rpm		
F27	Hot air blower motor, bottom, MAX rpm	BUS	Actual blower rpm	Set CO ₂ value	Adjust CO ₂ value with CO ₂ screw on gas valve

Notes:

Service Level: ER -- Error code history

Since software version C1-07-01 the last 10 error messages are shown.

Er	When Timer key is pressed the error code will be displayed, i.e.	
Er1	3	B1 Cabinet sensor defective
Er2	14	Y1 Filling solenoid defective
Er3		
--		
--		
Er10		

Since software version C1-07-01 the last 16 gas error messages are shown in addition to the general error messages (gas units only!)

GE11	20	No rpm signal
GE12	32	No flame after 5 ignition sequences
GE13		
--		
--		
GE25		
GE26		

Indication of ignition box error messages (1-32 is shown to the operator as „rES“):

1	Hot air or Steam	no gas, gas valve or electrode defective
14	Hot air	gas valve controll, change ignition box
19	Hot air	no flame because flame current is too low check burner setting, flame current, ignition cable and plug
20	Hot air	wrong or no rpm signal from gas blower check gas blower, power supply gas blower and control harness of gas blower
22	Hot air	no flame after 5 ignition sequences no gas, gas valve or electrode defective
24	Steam	gas valve controll, change ignition box
29	Steam	no flame because flame current is too low check burner setting, flame current, ignition cable and plug
30	Steam	wrong or no rpm signal from gas blower check gas blower, power supply gas blower and control harness of gas blower
32	Steam	no flame after 5 ignition sequences no gas, gas valve or electrode defective

Possible failure in case of „E21“

33, 36		Change ignition box
35		Check frequency of main
39	Hot air	Check burner setting, ignition electrode and distance, and flame current
40	Hot air	Check ignition cable
42	Steam	Check burner setting, ignition electrode and distance, and flame current
43	Steam	Check ignition cable

Is shown on display „CHnG PoL“

34	Change polarity of mains
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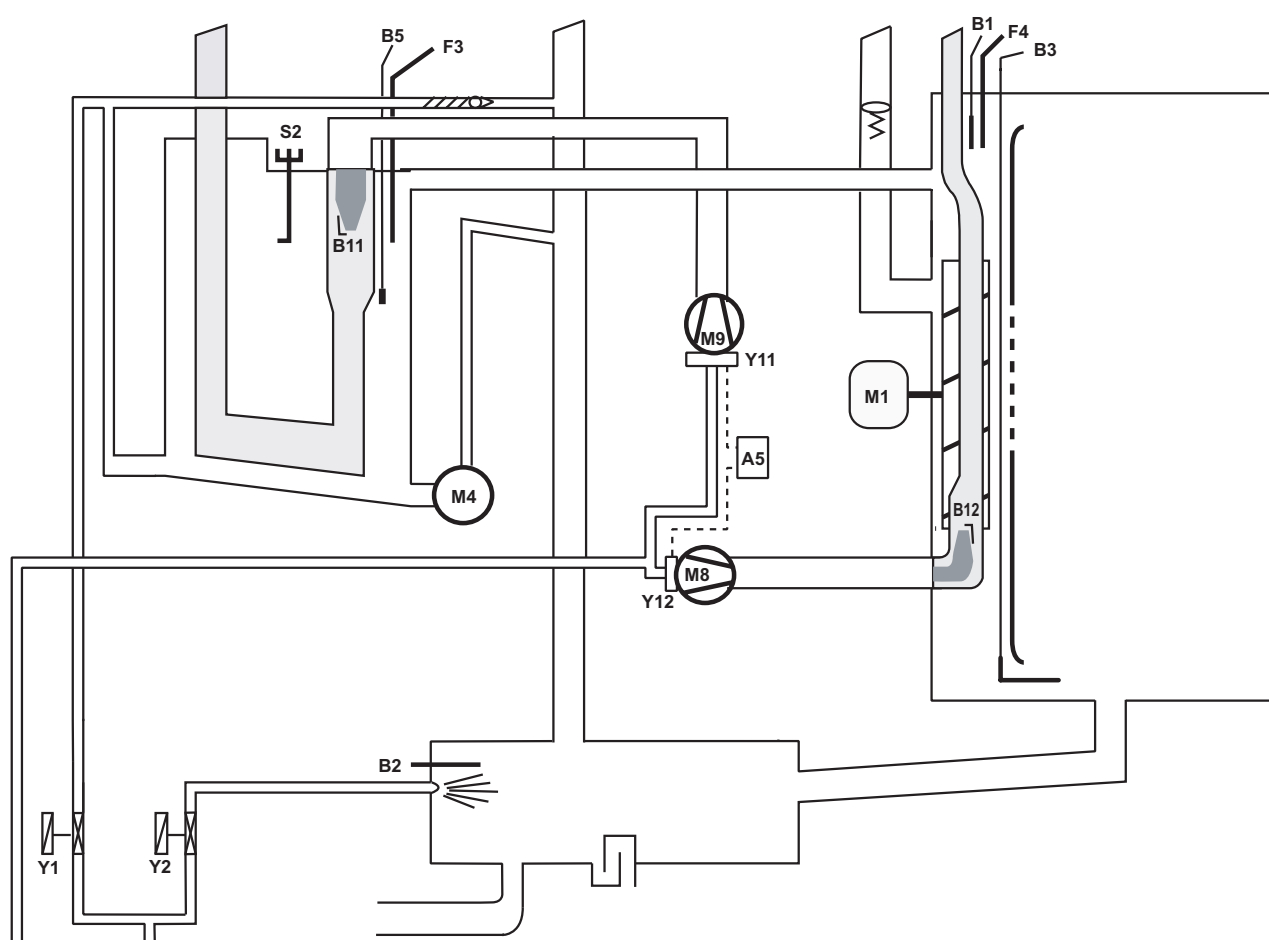
All other numbers (2-13, 15-18, 21, 23, 25-28, 31): change ignition box

Failure Codes CM from 04-2004

**C
M**

Int. cab. display	Timer display	Failure explanation	Description
H2o	OPEn	H2O open	Lack of water / open water tap
CHnG	PoL	Change Polarity	Phase / Neutral (only gas units)
Timer display	Int. cab. display (E -press core temp. key)	Part concerned	Description
E1		external EEPROM	Not initialised
E2		Timeout of external	Heating blocked by the extern. energy-
		power optimising system (Sicotronic)	optimising system for longer 2 min.
E3		B1 Interior cabinet sensor	Sensor broken
E4		B2 Quenching sensor	Sensor broken
E5		B3 Core sensor	Sensor broken
E6		B5 Sensor steam generator	Sensor broken
E7		Thermocouple on PCB	Sensor broken
E8		Poti interior cabinet	Defective
E9		Poti timer/core temperature	Defective
E10		External EEPROM	Defective
E11		Mode switch	After 5 sec switching on the unit, a
E12	1 St	Fan motor 1 (bottom)	cooking mode couldn't be identified
	1 Co	Fan motor 1 (bottom)	St = Status (probably Motor defect)
E 12	2 St	Fan motor 2 (top)	Co = Communication,(Bus failure)
	2 Co	Fan motor 2 (top)	St = Status (probably Motor defect)
E13		M4 SC-pump	Co = Communication,(Bus failure)
E14		Solenoid valve filling Y1	Mal function
E15		PCB temperature	Mal function
E16		Steam generator	above 85°C (185°F)
E17		Steam generator	Temperature B5 above
E18		Interior cabinet temp.	180°C (356°F)
E19		free	Temperature B5 below -5°C (23°F)
E20	1	Ignition box 1	Temperature B1 above 340°C (644°F)
E21	2	Ignition box 2	
	1xx	Ignition box 1 Steam	Ignition box does not reply, Bus failure
	2xx	Ignition box 1 Hot air	Ignition box does not reply, Bus failure
E22	3xx	Ignition box 2 Hot air	Ignition box defective (change box)
	1xx	Ignition box 1 Steam	Ignition box defective (change box)
	2xx	Ignition box 1 Hot air	Ignition box defective (change box)
	3xx	Ignition box 2 Hot air	Ignition box defective (change box)
E23		free	Testing of ignition and monitoring
E24		EEPROM	necessary
			Testing of ignition and monitoring
			necessary
			Testing of ignition and monitoring
			necessary
			Actual data structure of the EEPROM
			does not match with the software; flash
			pcb first

CM Gas from 04 - 2004



A5	Ignition module (Steam and Hot Air) (without jumper)
B1	Thermocouple interior cabinet
B2	Thermocouple quenching / Steam control
B3	Thermocouple core temperature
B5	Thermocouple steam generator
B11	Ignition/monitoring electrode steam
B12	Ignition/monitoring electrode hot air
F3	Safety thermostat steam generator 135°C
F4	Safety thermostat interior cabinet 360°C
M1	Fan motor
M4	SC-pump
M8	Gas blower motor hot air
M9	Gas blower motor steam
Y1	Solenoid valve filling
Y2	Solenoid valve quenching
Y11	Gas valve steam
Y12	Gas valve hot air
S2	Level electrode

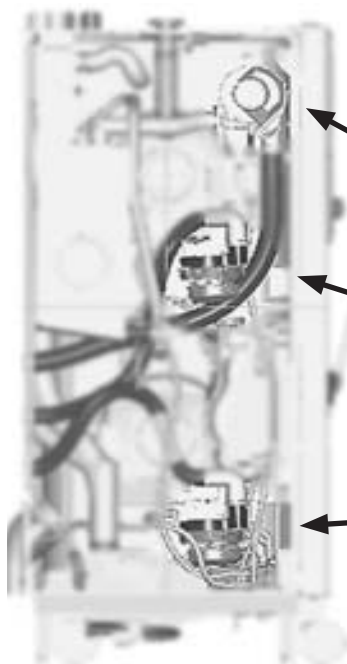
Only floor units 201 - 202

A6	Ignition module hot air bottom (with jumper)
M2	Fan motor top (with jumper)
M10	Gas blower motor hot air bottom
Y13	Gas valve hot air bottom
B13	Ignition/monitoring electrode hot air bottom

Basic info about CM Gas from 04-2004

Identification of the different gas burners / Gas blowers:

CM 201 - 202

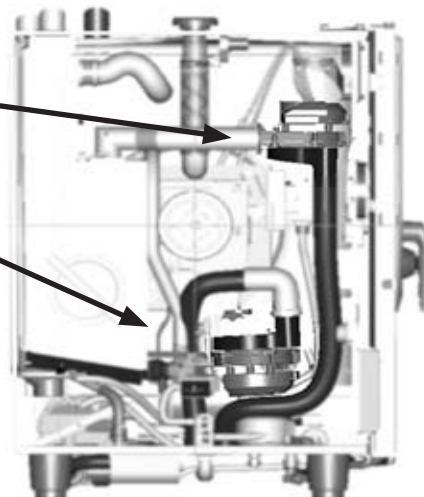


Steam Blower
(ignition box fitted)

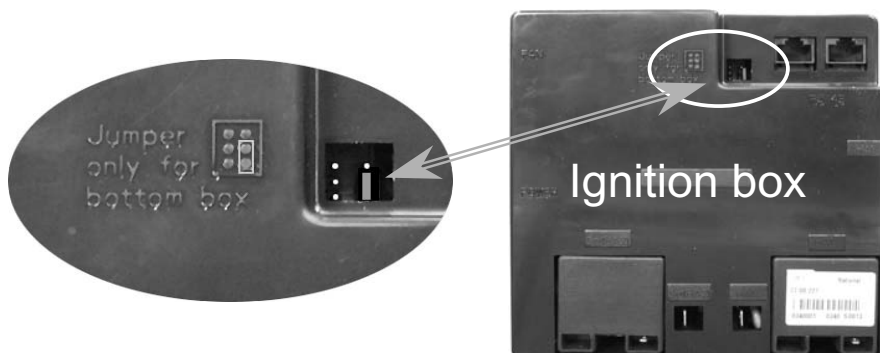
Hot Air blower top
(ignition box not fitted)

Hot Air blower bottom
(ignition box fitted)

CM 61 - 62 - 101 - 102

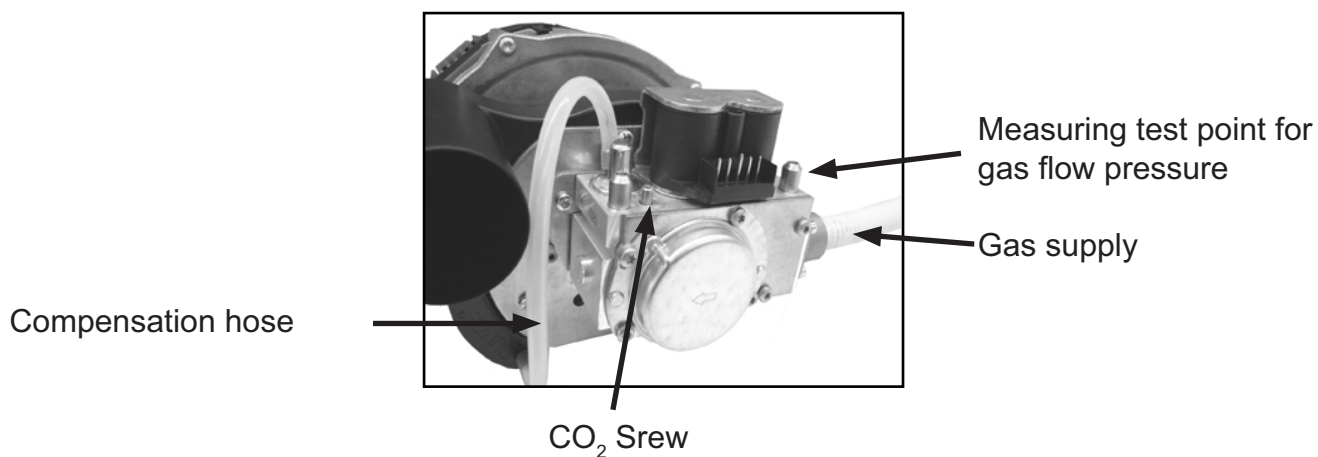


Ignition box of Hot Air Blower, Bottom (201-202):

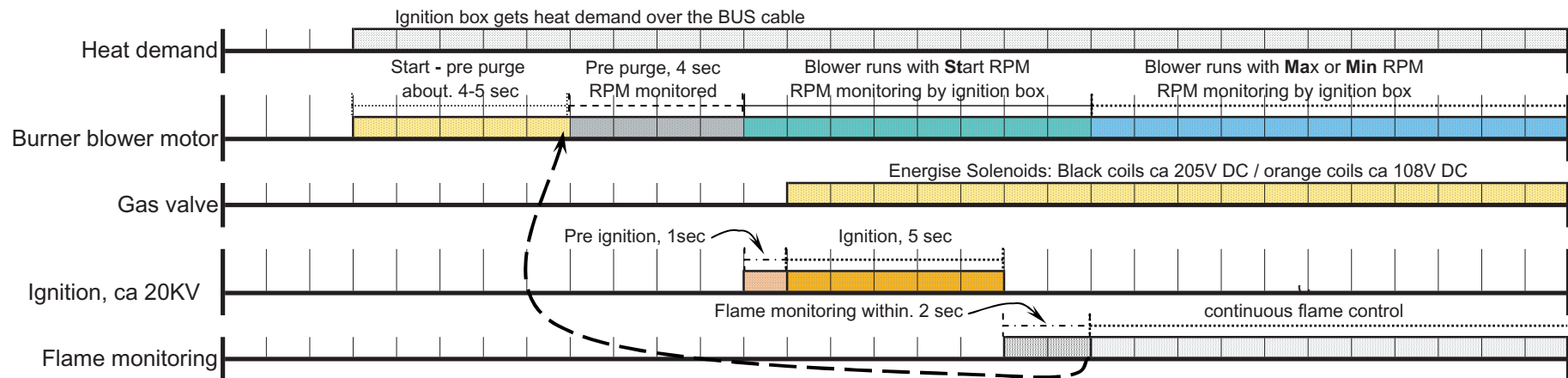
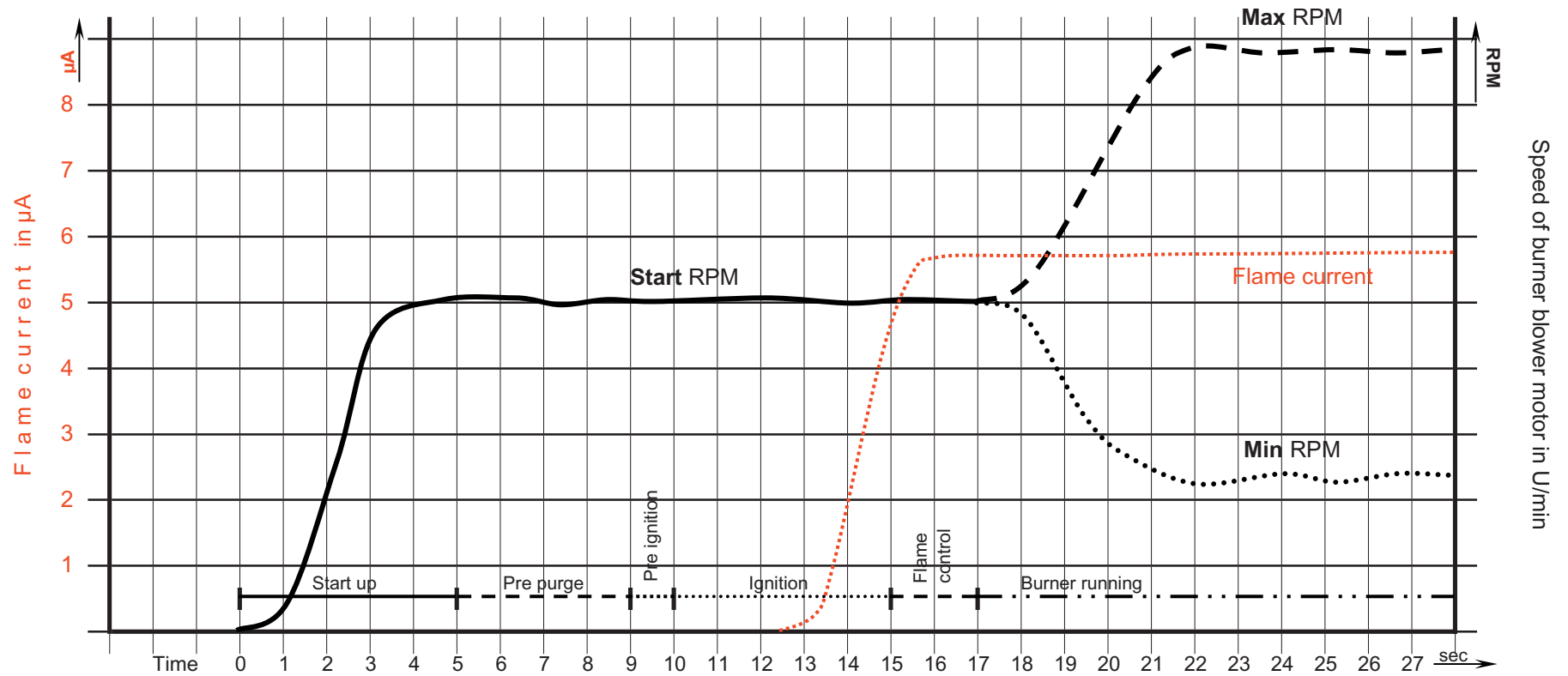


Jumper must ONLY be set on Ignition Box for Hot Air Blower Bottom (201 - 202)

Gas valve components



Sequence of events of Steam / Hot Air Burner (SCC as well as CM)



Check Gas Type / Gas Conversion: CM Gas from 04-2004

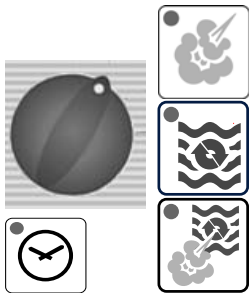
Whenever working on any gas component like:
Gas valve, gas blower and / or changing connected type of gas, a detailed flue gas analysis
MUST be done using adequate CO and CO₂ measuring equipment!
This shall ONLY be done by trained technicians!
Always check appliance for possible gas leakages!

CM

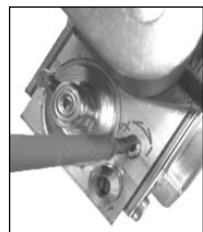
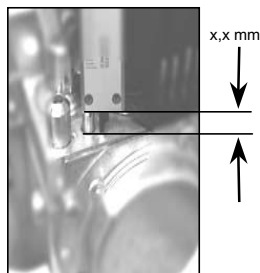
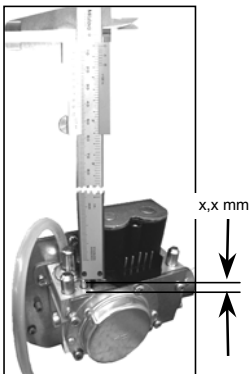
Danger:



Changing the gas type of your SelfCooking Center or Combi Master shall only be done if you have a flue gas analyser at hand. Changing the gas setting only by adjusting the CO₂ screw will result in an unsafe flue gas condition, is dangerous to life and will damage the equipment.



- A) Select any mode and cooking time
- B) Open control panel
- C)  Set DIP switch 1 on PCB to „ON“ position
- D)  With timer dial select: „SE“ = Settings:
- E)  Activate „Settings“ by pressing core temperature key; display changes to „SE1“
- F)  With timer dial select: SE6
- G)  Activate position SE6 with timer key (keep key pressed)
- H)  Select new gas type with timer dial:
G20=Nat Gas H, G25=Nat Gas L, G30=3BP, G31=3P, 13A=Nat. Gas Japan
- I)  Confirm new gas type with core temperature key
(now timer key can be released)
- J)  With timer dial select: SE7
- K)  Activate position SE7 with timer key (keep key pressed)
- L) Keeping the timer key pressed the average length of the CO₂ screw is indicated.
„St“ Steam, „HA1“ Hot air top, HA2“ Hot air bottom
Select the corresponding value with the timer dial (keep timer key pressed).



- M) **Note:** Setting this screw to the given length shall ONLY bring the unit into working condition with the newly supplied gas.
This does NOT replace flue gas analysis or make the flue gas analysis obsolete!

Set the CO₂ screw according the values of timer display or according the table „Values for burner adjustments“ (! ! ! Set all CO₂ screws ! ! !)

If the mm setting of CO₂ screw is too high, turn CO₂ screw first 2 turns clockwise and then to the requested length (Screw adjustment tolerance)

- N)  De-activate selected package „SE“ by pressing core temperature key
- O)  To exit service program set DIP switch 1 to „OFF“ position
- P) **Check / Set Installation Altitude in Basic settings**
Perform flue gas analysis in function test at F21, F24, F27
as well as the check of CO₂ values at F19, F22, F25

Changing installation altitude: CM gas from 04-2004

Note: The altitude settings of 0-499 and 500-999m are identical.
Therefore resetting of installation altitude needs to be done only when installing
above 1000m (3280ft) or below sea level (i.e. Red Sea)

-   A) Select any mode and cooking time
-  B) Open control panel
-  C)  Set DIP switch 1 on PCB to „ON“ position
-  D)  With timer dial select: „SE“ = Settings.
-  E)  Activate „Settings“ by pressing core temperature key; display changes to „SE1“.
-  F)  With timer dial select: SE8
-  G)  Activate position SE8 with timer key and keep it pressed.
-  H)  While pressing timer key corresponding installation altitude above sea level can be selected with the timer dial.

Possible altitude selection:

-500	-	-1m
0	-	499m
500	-	999m
1000	-	1499m
1500	-	1999m
2000	-	2499m
2500	-	2999m
3000	-	3499m
3500	-	3999m
4000	-	4499m
4500	-	4999m

- I)  Confirm new altitude setting with core temperature key
(Keep timer key pressed)
- J)   Release timer and core temperature key
- K)  De-activate selected package by pressing core temperature key;
- L)  To exit service program set DIP switch 1 to „OFF“ position
- M) To store the new altitude setting the unit must be switched
OFF and ON again.
- N) **Perform flue gas analysis in function test at F21, F24, F27
as well as the check of CO₂ values at F19, F22, F25**

Flue gas analysis: CM gas from 04-2004

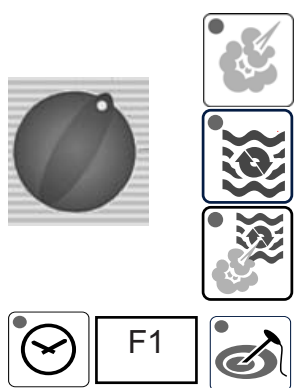


Before you carry out a flue gas analysis check input gas flow pressure when burner is running

- Switch on unit. Select any mode and cooking time. Wait till burner works
- Check input gas flow pressure
- See correct values of input flow pressure on serial plate
- If necessary adjust gas input pressure

Flue gas analysis (F21, F24 und F27) at MAX rpm - Checking CO₂ (F19, F22 and F25) at MIN rpm

NOTE: Components are NOT protected against overload during function test!



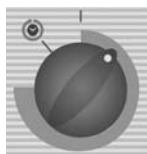
- A) Select any mode and cooking time
B) Open control panel

- C)  Set DIP switch 3 on PCB to „ON“ position

- D)  „F1“ is shown on timer display. With timer dial select position F21

- E)  Enter position F21 „Steam MAX“ with timer key

- F)  Activate position F21 with core temperature key;
NOTE: In this position core temp. key is used as a switch and will automatically deactivate after 4 minutes.

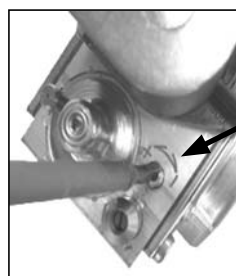


- G) Gas blower rpm is shown in cabinet temp. display.
Specific CO₂ value is shown on timer display, i.e. 9,5



- H) Place flue gas testing nozzle in correct flue outlet

- I) Adjust CO₂ to given value by turning CO₂ screw on gas valve.
You also can find that value on table „Values for burner adjustments“



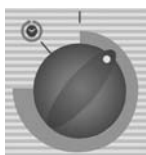
- If CO₂ value is too low => turn CO₂ screw anti clockwise (+ direction),
- If CO₂ value is too high => turn CO₂ screw first 2 turns clockwise (- direction), and then slowly anti clockwise (+ direction) till you get the indicated CO₂ value. (Screw adjustment tolerance).
- CO value must be below 300ppm

- J)  Press core temperature key. Burner will stop.

- K)  Leave position F21 „Steam MAX“ with timer key

Flue gas analysis: CM gas from 04-2004

F 19



- L)  Select position F19 with timer dial and enter „Steam MIN“ with timer key.
- M)  Activate position F19 with core temperature key;

NOTE: in this position core temp. key is used as a switch and will automatically deactivate after 4 minutes.“

- N) Carry out a CO₂ measurement to cross-check CO₂ value only. CO₂ value must be equivalent to the values mentioned in table „Values for burner adjustments“

If CO₂ value is out of allowed tolerance
=> Change gas valve

- O)  Press core temperature key. Burner will stop.
- P)  Leave position F19 „Steam MIN“ with timer key

F 24

- Q)  Select position F24 „Hot air top, MAX“ with timer dial and repeat steps E - K.

NOTE: Adjust CO₂ to given value by turning CO₂ screw on gas valve at position F24 „Hot air top, MAX“ only!

F 22

- R)  Select position F22 „Hot air top, MIN“ with timer dial and repeat steps L - P

NOTE: Cross-check CO₂ value only. If CO₂ value is out of allowed tolerance
=> Change gas valve

CM201 and CM202 only:

F 27

- S)  Select position F27 „Hot air bottom, MAX“ with timer dial and repeat steps E - K.

NOTE: Adjust CO₂ to given value by turning CO₂ screw on gas valve at position F27 „Hot air top, MAX“ only!

F 25

- T)  Select position F25 „Hot Air bottom, MIN“ with timer dial and repeat steps L - P.

NOTE: Cross-check CO₂ value only. If CO₂ value is out of allowed tolerance
=> Change gas valve

- U)  To exit service program set DIP switch 3 to „OFF“ position

Values for burner adjustments of gas units SCC / CM (valid since March, 2006), entry in "red" => new

Type of gas	SCC - CM	Steam Burner				Hot Air Burner - Top Side				Hot Air Burner - Bottom Side (only at 201-202)			
		Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%	Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%	Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%
Natural Gas High (G20)	61	18 - 25 mbar	3,9 mm	9,4%	8,0%	18 - 25 mbar	3,8 mm	9,4%	8,3%				
	62	18 - 25 mbar	3,4 mm	9,4%	7,9%	18 - 25 mbar	3,5 mm	9,4%	8,0%				
	101	18 - 25 mbar	3,3 mm	9,4%	7,7%	18 - 25 mbar	3,3 mm	9,4%	7,7%				
	102	18 - 25 mbar	4,1 mm	9,4%	8,4%	18 - 25 mbar	3,5 mm	9,4%	8,6%				
	201	18 - 25 mbar	4,1 mm	9,4%	8,2%	18 - 25 mbar	3,4 mm	9,4%	7,8%	18 - 25 mbar	3,4 mm	9,4%	7,8%
	202	18 - 25 mbar	4,1 mm	9,5%	8,8%	18 - 25 mbar	3,3 mm	9,4%	8,7%	18 - 25 mbar	3,3 mm	9,4%	8,7%
Natural Gas Low (G25)	61	18 - 25 mbar	4,8 mm	9,3%	8,2%	18 - 25 mbar	6,0 mm	9,3%	8,0%				
	62	18 - 25 mbar	4,6 mm	9,3%	7,8%	18 - 25 mbar	4,7 mm	9,3%	7,7%				
	101	18 - 25 mbar	4,0 mm	9,3%	7,8%	18 - 25 mbar	4,3 mm	9,3%	7,8%				
	102	18 - 25 mbar	7,0 mm	9,3%	8,0%	18 - 25 mbar	4,5 mm	9,3%	8,3%				
	201	18 - 25 mbar	6,5 mm	9,3%	9,0%	18 - 25 mbar	4,2 mm	9,3%	7,8%	18 - 25 mbar	4,4 mm	9,3%	7,8%
	202	18 - 25 mbar	6,5 mm	9,4%	8,9%	18 - 25 mbar	4,4 mm	9,3%	8,6%	18 - 25 mbar	4,5 mm	9,3%	8,6%
LPG 3BP (G30)				3B/P	100% Butane			3B/P	100% Butane			3B/P	100% Butane
	61	30 - 57 mbar	2,6 mm	10,4%	11,6%	30 - 57 mbar	2,5 mm	10,4%	11,6%				
	62	30 - 57 mbar	2,4 mm	10,4%	11,6%	30 - 57 mbar	2,4 mm	10,4%	11,6%				
	101	30 - 57 mbar	2,5 mm	10,4%	11,6%	30 - 57 mbar	2,3 mm	10,4%	11,6%				
	102	30 - 57 mbar	2,5 mm	10,4%	11,6%	30 - 57 mbar	2,4 mm	10,4%	11,6%				
	201	30 - 57 mbar	3,1 mm	10,4%	11,6%	30 - 57 mbar	2,8 mm	10,4%	11,6%	30 - 57 mbar	2,8 mm	10,4%	11,6%
LPG 3P (G31)	61	30 - 57 mbar	2,9 mm	11,1%	9,4%	30 - 57 mbar	2,5 mm	11,1%	9,8%				
	62	30 - 57 mbar	2,7 mm	11,1%	8,9%	30 - 57 mbar	2,5 mm	11,1%	9,2%				
	101	30 - 57 mbar	2,4 mm	11,1%	9,3%	30 - 57 mbar	2,7 mm	11,1%	9,7%				
	102	30 - 57 mbar	2,8 mm	11,1%	9,7%	30 - 57 mbar	2,6 mm	11,1%	9,9%				
	201	30 - 57 mbar	2,6 mm	11,1%	9,6%	30 - 57 mbar	2,4 mm	11,1%	9,1%	30 - 57 mbar	2,4 mm	11,1%	9,0%
	202	30 - 57 mbar	2,3 mm	11,1%	10,7%	30 - 57 mbar	2,3 mm	11,1%	10,0%	30 - 57 mbar	2,3 mm	11,1%	10,1%
Natural gas Japan (13A)	61	18 - 25 mbar	4,2 mm	9,5%	8,6%	18 - 25 mbar	3,5 mm	9,5%	8,4%				
	62	18 - 25 mbar	3,7 mm	9,5%	7,8%	18 - 25 mbar	3,4 mm	9,5%	8,0%				
	101	18 - 25 mbar	3,3 mm	9,5%	8,0%	18 - 25 mbar	3,1 mm	9,5%	8,2%				
	102	18 - 25 mbar	3,9 mm	9,5%	8,5%	18 - 25 mbar	3,4 mm	9,5%	8,5%				
	201	18 - 25 mbar	3,4 mm	9,5%	8,4%	18 - 25 mbar	3,1 mm	9,5%	8,2%	18 - 25 mbar	3,3 mm	9,5%	8,2%
	202	18 - 25 mbar	3,2 mm	9,5%	9,1%	18 - 25 mbar	3,1 mm	9,5%	8,8%	18 - 25 mbar	3,5 mm	9,5%	8,8%

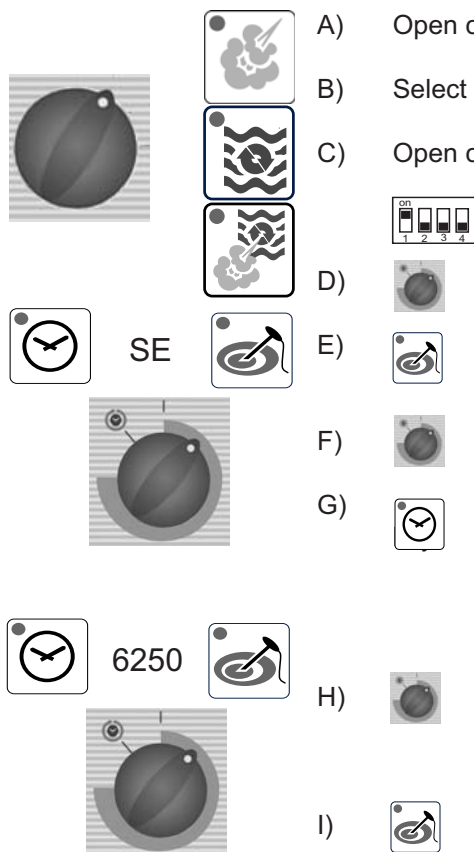
How to carry out a burner adjustment:

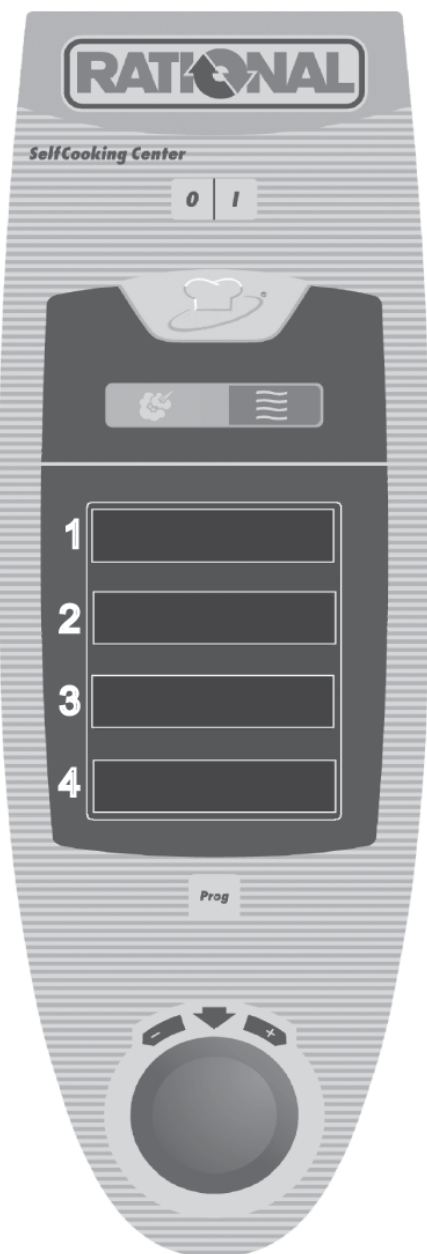
- 1.) Check the gas type adjustment at "Basic Settings".
- 2.) Check the given length of the CO₂ screw. See correct values from table above.
- 3.) Check gas input flow pressure. See correct values from table above.
- 4.) Select "Gas Steam Blower" at "Function Test". Exhaust temperature should be during the "gas flow analysis" above 200°C.
 Carry out first a CO₂ "Max" adjustment.
 Setting of exhaust values only by CO₂ screw adjustment. CO₂ = see table above, CO = below 300ppm, if possible below 100ppm.
 Carry out the CO₂ "Min" measurement. At CO₂ "Min" measurement **no** adjustment necessary on the CO₂ screw => !!! **Check only the CO₂ values ! ! !**
 Repeat same measurements at "Gas Hot Air Blower Top" and "Gas Hot Air Blower Bottom (201-202)".

Changing Gas blower speed (MAX, Start, MIN rpm): CM gas from 04-2004

(as from Software C-06-03):

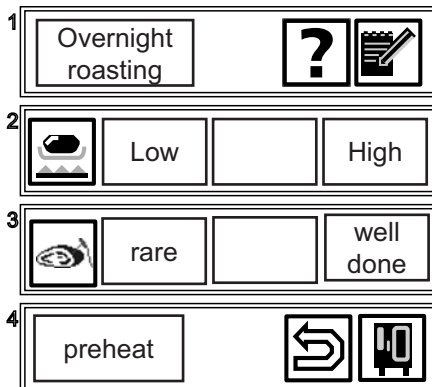
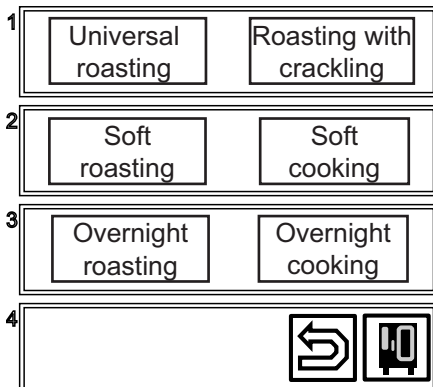
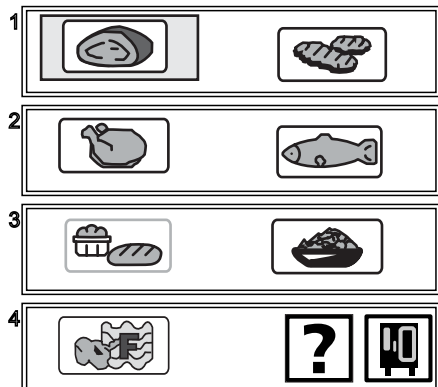
Note: This setting shall ONLY be done by specially trained and RATIONAL approved technicians.

- 
- A) Open cabinet door
- B) Select any mode
- C) Open control panel
- Set DIP switch 1 on PCB to „ON“ position
- D) With timer dial select: „SE“ = Settings
- E) Activate „Settings“ by pressing core temperature key; display changes to „SE1“
- F) With timer dial select: SE9
- G) Activate position SE9 „blower motor steam MIN“ rpm with timer
- Timer display shows stored value from EEPROM, i.e. 6250
- H) While pressing timer key blower speed can be adjusted with timer dial by + / -10%
Note: Adjust steps in increments of 60rpm only!
Changed rpm will be shown in timer display.
- I) Confirm new rpm setting with core temperature key (keep timer key pressed)
- J) Release timer key
- K) Repeat steps F) - J) at SE10 „blower motor steam Start“ rpm and at SE11 „blower motor steam MAX“ rpm
Adjust steps in increments of 60rpm only!
- L) Repeat steps F) - J) at SE12 „blower motor hot air, top MIN“ rpm, SE13 „blower motor hot air, top Start“ rpm, and SE14 „blower motor hot air, top MAX“ rpm.
Adjust steps in increments of 60rpm only!
- M) CM 201 and 202: Repeat steps F) - J) at SE15 „blower motor hot air, bottom MIN“ rpm, SE16 „blower motor hot air, bottom Start“ rpm, and SE17 „blower motor hot air, bottom MAX“ rpm.
Adjust steps in increments of 60rpm only!
- N) De-activate selected package by pressing core temperature key;
- O) To exit service program set DIP switch 1 to „OFF“ position
- P) To store the new blower speed setting the unit must be switched OFF and ON again.
- Q) **Perform flue gas analysis in function test at F21, F24, F27 as well as the check of CO₂ values at F19, F22, F25**

[illegible]

SCC

SCC



?



Notes:

Up to Software version SCC 01-07-12 only!

Combi Steamer Mode

Functions

Settings



1  0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

2  **200°C** 

3  **Duration** 

4    

-  Setting of Humidity
-  Setting of cabinet temperature
-  Setting of time
-  Setting of core temperature
-  Moistening
-  Setting of fan speed
-  Cool Down



1 **CleanJet** **HACCP**

2   **Start time**

3 **CDS**   

4 **Settings**  

-  Setting of : time, Date, time format, °C/°F etc.
-  Delta -T cooking
-  1/2 Energy
-  HACCP Protokol
-  Telephone Chef-Line
-  Service



1 **10:24** **am/pm** **24 h** **h:m** **m:s**

2 **08/22/03** **22.08.03** **°C / °F**

3  **english**  **Prog**

4     

-  Setting of time format
-  Setting of time laps
-  Setting of date format
-  Setting of °C/°F
-  Setting of language
-  default 12345, SU: ttreu
-  Setting of buzzer sound
-  Setting of display intensity
-  Setting of CleanJet prompting (only active when frame is red)

Service



Typ

1 **Service Info**

2 **Descaling** 

3  **Info** 

4 **Typ**  

1 **No: E11SE0503200.....**

2 **SW: SCC - 01 - 07 - 08**

3 **Mod: SCC_101** 

4 **English** 

Service Info: Display of pending service faults

-  empty steam generator (Door must be open!)

 humidity emergency control active

-  Display Software version

 humidity emergency control was active since last switch ON (will not be displayed when in „dry heat mode“)

-  Download of service data to stick. Set DIP-switch 1 to "on" (=activation of diagnostic program). Afterwards touch function key and then service key.

S
C
C

This display since Software version SCC 02-01-01 only!

SelfCooking Control
Mode - Level 1



SelfCooking Control
Mode - Level 2



SelfCooking Control
Mode - Level 3

SCC



1

2

3

4 13:45

1 roast braise

2 roast with crackling gentle roasting

3 overnight roasting gentle cooking

4 13:45

1 overnight roasting

2

3 medium 62°C

4 close door



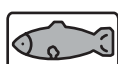
Large roast



Pan fries



Poultry



Fish



Side dishes



Potato product



Egg dishes/Desserts



Bakery products



Finishing



Help: guide line for selected setting;
practical hints for product to be used
in the respective SCC cooking process



Back to previous level



CleanJet, HACCP, Delta T, E1/2
Start time, CDS, Descaling, Settings



Store selected setting



Selection of core temperature



Searing

Notes:

This display since Software version SCC 02-01-01 only!

Combi Steamer Mode

Functions

Settings

SCC

Combi Steamer Mode	Functions	Settings
1 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%	1 CleanJet	1 10:24 am/pm 24 h h:m m:s
2 200°C	2 start time	2 10/22/06 22.10.06 °C / °F IP
3 Duration	3	3 english
4	4 settings	4
Setting of Humidity Setting of cabinet temperature Setting of time Setting of core temperature Moistening Setting of fan speed (lowest level=intermittent) Cool Down Service key (after setting dip switch #1)	CleanJet CleanJet programs Function level Delta -T cooking 1/2 Energy Telephone Chef-Line delete all programs, program lock, buzzer setting, time setting Data download (upload): Customer programs HACCP Service data	am/pm 24 h Setting of time format h:m m:s Setting of time laps 08/22/03 22.08.03 Setting of date format °C / °F Setting of °C/°F english Setting of language reset to factory setting english, °C, buzzer perm., buzzer, Setting of buzzer sound Setting of display intensity

Service

Typ

Service	Typ
1 Service Info	1 No: E11SE0503200.....
2 Descaling	2 SW: SCC - 01 - 07 - 08
3 CDS	3 Mod: SCC_101
4 Typ	4 English

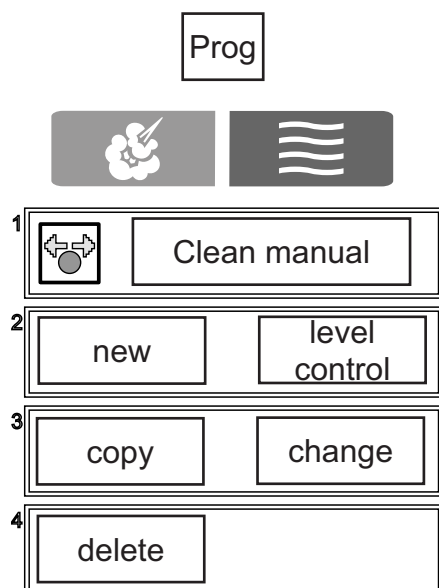
empty steam generator (Door must be open!)

Display Software version

Download of service data to stick. Set DIP-switch 1 to "on" (=activation of diagnostic program). Afterwards touch function key and then service key.

humidity emergency control active
 humidity emergency control was active since last switch ON (will not be displayed when in „dry heat mode“)

CDS Scale level of steam gen.



select program name with central dial

new

give program name (blank - between _ and @

copy

existing SCC process or program can be copied and get an index number, i.e. 1; name can be edited and changed;

change



Change parameter and / or cooking mode of program in a non-active program;

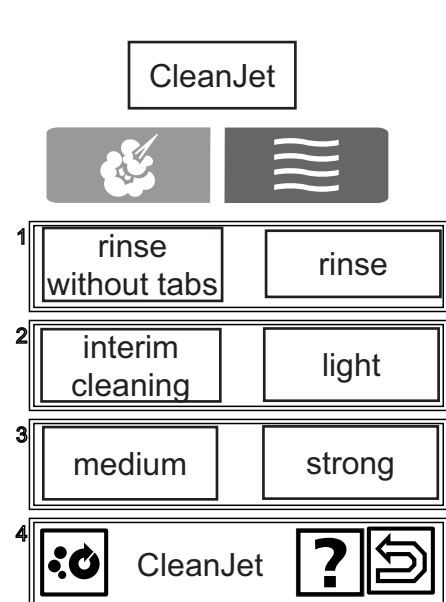
confirm change by:

delete

selected program flashes; confirm delete by pressing again

level control

1. Give program name
2. Store
3. select mode, temperature, time (in minutes and seconds) or core temperature,
4. Second program with identical mode and temperature, but different time can be stored and selected alternating after pre-heating;



rinse without tabs

rinse with water only; cabinet will be dried out;

rinse

rinse with 1 rinse tab for cleaning after steaming

interim cleaning

rinse with 1 cleaner tab for cleaning in between cooking cycles; no drying of cabinet;

light

Cleaning of light soiling with drying of cabinet

medium

Cleaning of medium soiling with drying of cabinet

strong

Cleaning of strong soiling with drying of cabinet

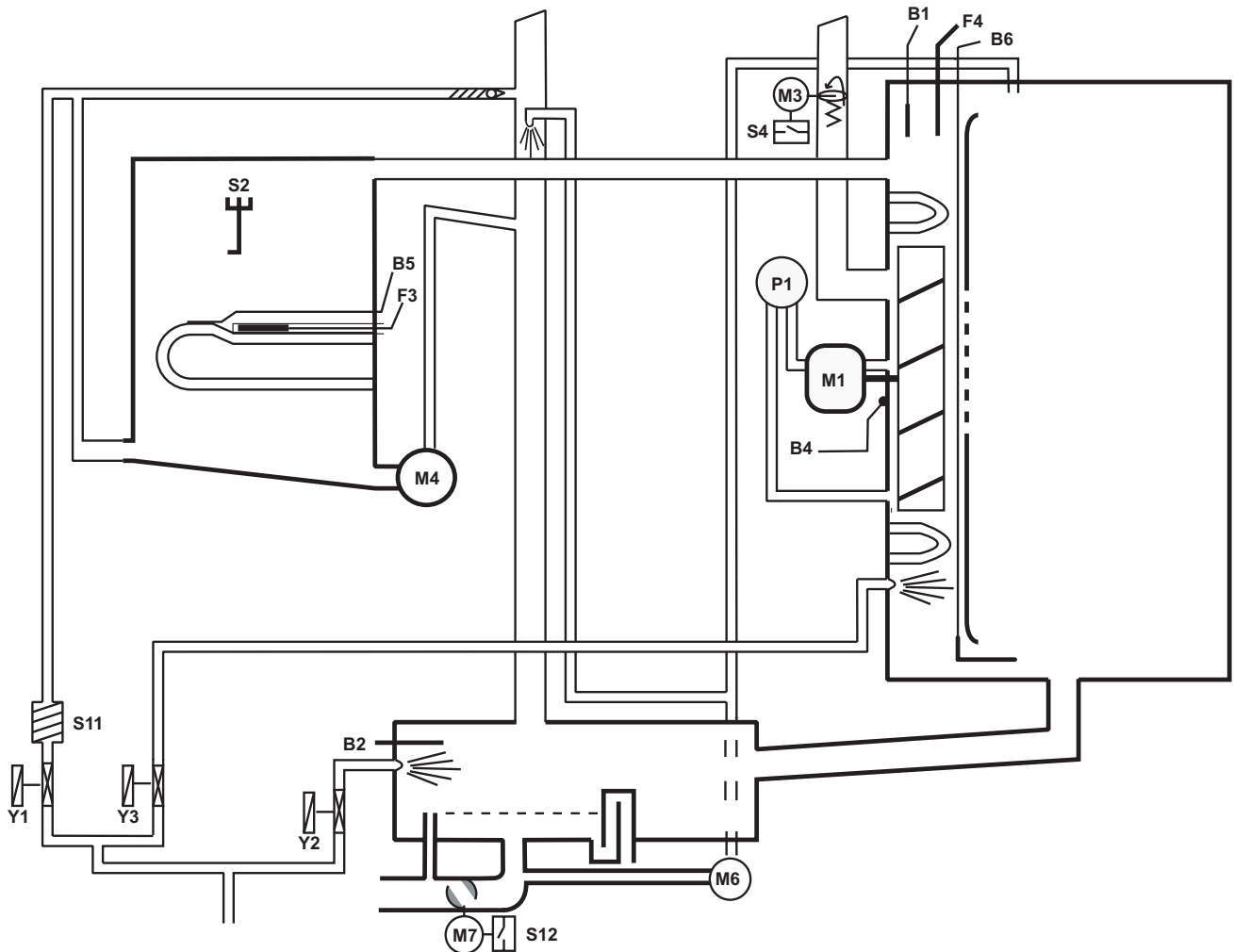
Note:

Reduce number of detergent tabs when too much foam is visible;

Check direction of water jet inside cabinet when timer is counting up;

Notes:

SCC Electric from 04-2004



- B1 Thermocouple interior cabinet
- B2 Thermocouple quenching
- B4 Thermocouple humidity
- B5 Thermocouple steam generator (preheat, 180°C (356°F) max)
- B6-B11 Thermocouples core temperature
- F3 Safety thermostat steam generator 160°C (320°F)
- F4 Safety thermostat interior cabinet 360°C (680°F)
- Y1 Solenoid valve filling
- Y2 Solenoid valve quenching
- Y3 Solenoid valve moistening
- M1 Fan motor bottom
- M3 Humidity flap motor
- M4 SC-pump
- M6 CleanJet pump
- M7 Motor drain valve / ball valve
- S2 Level electrode
- S4 Micro switch humidity motor
- S11 CDS sensor
- S12 Micro switch drain valve
- P1 Pressure sensor humidity

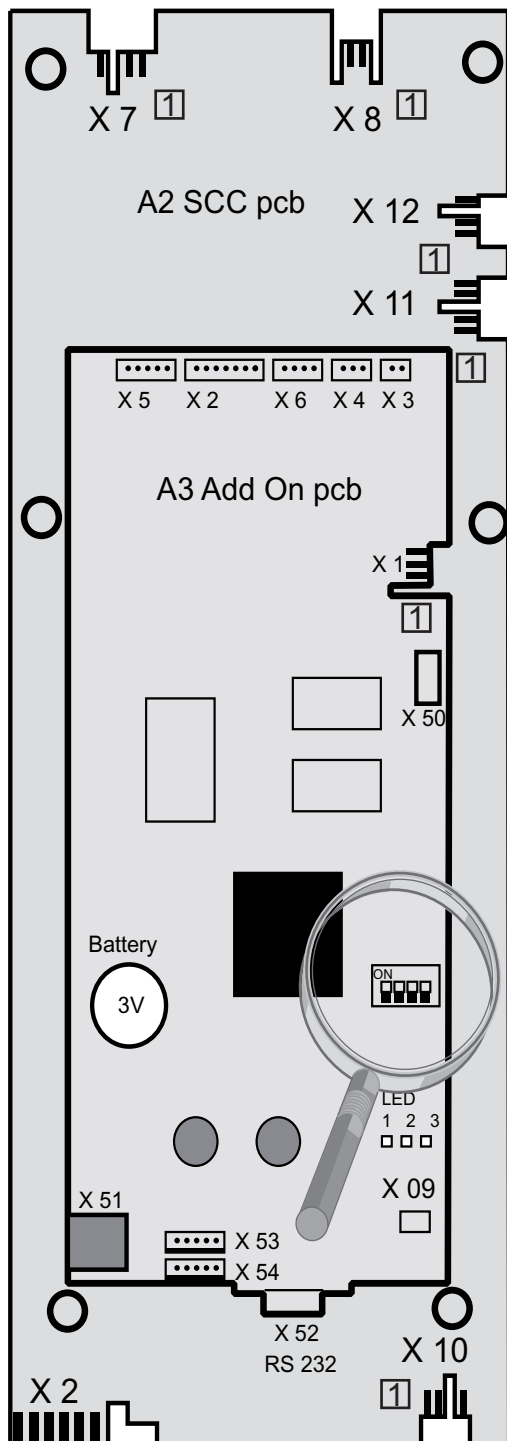
SCC 201/202 only:

- M2 Fan motor top with jumper (floor units only)

Notes:

SCC

SCC Operator pcb (42.00.002)



X7	200 - 240V input to I/O Switch
X8	Buzzer
X12	Level electrode
X11	Humidity flap motor / Micro switch
Add on X1	P1 pressure sensor
Add on X2	B6-11 thermocouples core temperature
Add on X3	B1 thermocouple interior cabinet
Add on X4	B2 thermocouple quenching
Add on X5	B4 thermocouple humidity
Add on X6	B5 thermocouple steam generator
Add on X50	External EEPROM
Add on X51	BUS interface and power supply for cpu from I/O pcb
Add on X52	RS232 interface
Add on X53	USB interface (only until November 2005)
Add on X54	USB interface
Add on X09	Central dial
X10	Power suply for display 2,5 - 0 - 2,5V (X10 indicated as X1 on pcb layout)
X2	Free
1	Counting sequence

Note: LED code: SCC PCB

Green LED on - ok;

Red LED blinks 1x during re-booting when switching on - ok

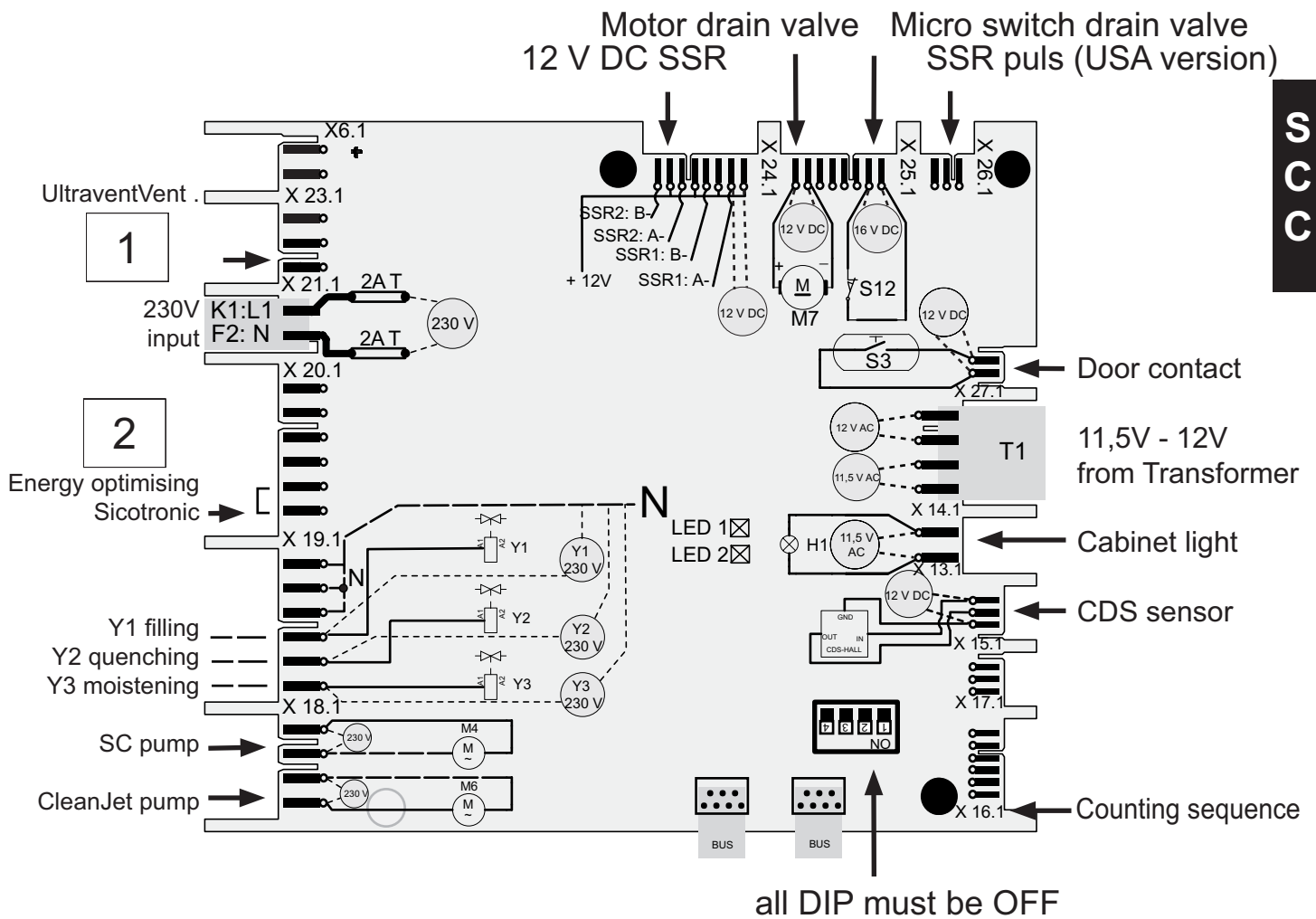
Green LED - off: Bus cable defective; CPU defective; I/O pcb or transformer defective

Red LED on: CPU defective

Red LED doesn't blink during re-booting when switching on - CPU defective

Measuring points I/O PCB SCC (40.00.049)

Wires of pcb edge connectors are pointing to component side of pcb!



1: Ultravent connection used for Ultravent without Bus connection only!

2: Energy optimizing plug with link on 5-6 used only on I/O pcb with 6 relais card!
Please refer to Technical Info 16-2005

Note: LED code: I/O PCB

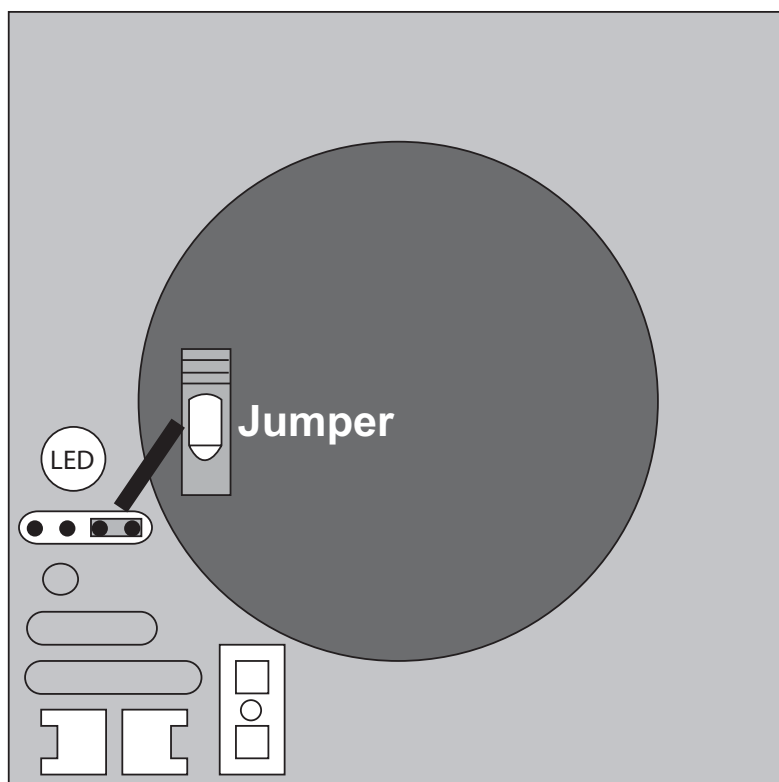
Green LED on - ok;

Yellow LED blinks during re-booting but is off during operation - ok

Yellow LED blinks always: Set DIP switches to OFF position; Bus cable defective;

Green LED off: I/O pcb defective; transformer defective

Motor for SCC / CM



Jumper 40.01.581 is used on floor model 201 and 202 for top position motor only!

Jumper is not used on models 61 - 102 with one motor only! (Service 34 will be shown!)

LED code fan motor SCC and CM from 04/2004

	Reason	Remedy
1x	Motor doesn't start, no changing signal from hallsensor	Check for motor blockage or change motor.
2x	Voltage too low on motor pcb	Check supply voltage or change motor.
3x	Voltage too high on motor pcb	Check supply voltage or change motor.
4x	rpm measurement defective	Change motor.
5x	Motor pcb temperature >105°C	Check cooling system (cooling fan, air intake filter), otherwise change motor
6x	Supply voltage <80V	Check power supply (F1-F2)
7x	Motor pcb defective	Change motor.
8x	Motor pcb defective	Change motor.

Notes:

SCC

SCC Units: Sequence of Events

Mode: Wet heat (98-103°C (208-218°F), set temperature)



-48-

Function step		Responsible sensor	Signal	Remark
1	Select Wet heat (Temp 98-103°C (208-218°F))	Note: Steam heating only active when humidity flap (S4) is in closed position!		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-4)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot on timer display
7	Steam production up to saturation in cabinet	Pressure sensor P1 Thermocouple B4 rpm motor via BUS	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	
8	Adding of Hot Air from 70°C (158°F) possible, if 70% humidity reached	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4) Gas unit: Bus signal	Decision of Hot Air supply by PCB logic
9	Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)
Additional functions possible: 4 Fan speeds (Standard = Level 4), pulsed fan wheel, ½ Energy, HACCP output, ΔT				

SCC Units: Sequence of Events

**Mode: Low temperature steam;
(30-97°C (85-207°F), set temperature)**



	Function step	Responsible sensor	Signal	Remark
1	Select Wet heat (Temp 30-97°C (85-207°F))	Note: Steam heating only active when humidity flap (S4) is in closed position! Below 98°C fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-4)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot on timer display
7	Steam supply until set temperature inside cabinet is reached	Cabinet sensor B1	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	
8	Adding of Hot Air from 93°C (200°F) possible (only 50%)	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4) Gas unit: Bus signal	Decision of Hot Air supply by PCB logic
9	Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)
Additional functions possible:		4 Fan speeds (Standard = Level 4), pulsed fan wheel, ½ Energy, HACCP output, ΔT		

SCC Units: Sequence of Events

Mode: Forced Steam 104-130°C
(219-266°F), set temperature)



50

	Function step	Responsible sensor	Signal	Remark
1	Select Wet heat (Temp 104-130°C (219-266°F))	Note: Steam heating only active when humidity flap (S4) is in closed position!		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-4)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot on timer display
7	Steam production up to saturation in cabinet	Pressure sensor P1 Thermocouple B4 rpm motor via BUS	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	
8	Adding of Hot Air if 85% humidity reached	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4) Gas unit: Bus signal	Decision of Hot Air supply by PCB logic
9	Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)
Additional functions possible:		4 Fan speeds (Standard = Level 4), pulsed fan wheel, ½ Energy, HACCP output, ΔT		

SCC Units: Sequence of Events

**Mode: Combi Steam 141-300°C
(286-572°F), set temp.**



	Function step	Responsible sensor	Signal	Remark
1	Select Wet and Dry heat (Temp 141-300°C (286-572°F))	Note: Steam heating only active when humidity flap (S4) is in closed position!		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-4)
5	Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	Heating off, if B5 > 180°C (356°F)
6	Timer starts after successful preheating	Logic on PCB		Blinking dot on timer display
7	Heat up cabinet with Hot Air until set temperature. Priority Hot Air	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4) Gas unit: Bus signal	
8	Adding of steam up to set steam saturation	Pressure sensor P1 Thermocouple B4 rpm motor via BUS	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	
9	Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)
Additional functions possible:		4 Fan speeds (Standard = Level 4), pulsed fan wheel, ½ Energy, HACCP output, ΔT, manual moistening		

SCC Units: Sequence of Events

Mode: Finishing
(30°-140°C (85-284°F), set Temp.



Function step	Responsible sensor	Signal	Remark
1 Select Wet and Dry heat (Temp. 30-140°C, 85-284°F)			Note: Steam heating only active when humidity flap (S4) is in closed position! Below 98°C fan at lowest speed when no energy required for longer than 2 minutes.
2 Select time or core temperature			
3 Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4 Check water level inside steam generator	Level electrode S2 inside Steam Generator	X12:(1-4) > 2VAC => no water X12:(1-4) ~ 0VAC => water	Solenoid Y1 energizes when no water, 230VAC, X19:(1-4)
5 Preheat steam generator, if B5 is below 85°C (185°F);	Thermocouple B5 inside Steam Generator	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	Heating off, if B5 > 180°C (356°F)
6 Timer starts after successful preheating	Logic on PCB		Blinking dot on timer display
NOTE: For initial heating of cabinet => alternately energy supply of Steam and Hot Air (Electric: 8 seconds each; Gas:20 seconds each)			
7 Steam supply up to set humidity Electric: 8sec on / off Gas: 20 sec on / off	Pressure sensor P1 Thermocouple B4 rpm motor via BUS	SSR active: 12VDC X24:(1-2)+(5-6) SSR not active: 0VDC X24:(1-2)+(5-6) Gas unit: Bus signal	
8 Hot air supply up to set temperature Electric: 8 sec on / off Gas: 20 sec on / off	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4) Gas unit: Bus signal	
9 Quenching (set to 70°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)
Additional functions possible: 4 Fan speeds (Standard = Level 4), pulsed fan wheel, ½ Energy, HACCP output, ΔT, manual moistening			

SCC Electric: Sequence of Events

Mode: Dry heat 30°-300°C
(86-572°F), set Temp.



	Function step	Responsible sensor	Signal	Remark
1	Select Dry heat Temp. 30-300°C (86-572°F)	Note: Below 98°C fan at lowest speed when no energy required for longer than 2 minutes.		
2	Select time or core temperature			
3	Close cabinet door	Reed switch S3	Door open: 12VDC X27:(1-2) Door closed: 0VDC X27:(1-2)	
4	Timer starts counting down	Logic on PCB		Blinking dot on timer display
5	Heat up cabinet with Hot Air until set temperature	Cabinet sensor B1	SSR active: 12VDC X24:(7-8)+(3-4) SSR not active: 0VDC X24:(7-8)+(3-4)	
6	Quenching (set to 90°C/158°F)	Thermocouple B2	B2 above set Temp.: Y2 active B2 below set Temp.: Y2 not active	Y2 act.: 230VAC, X19:(2-5) Y2 not act.: 0VAC, X19:(2-5)

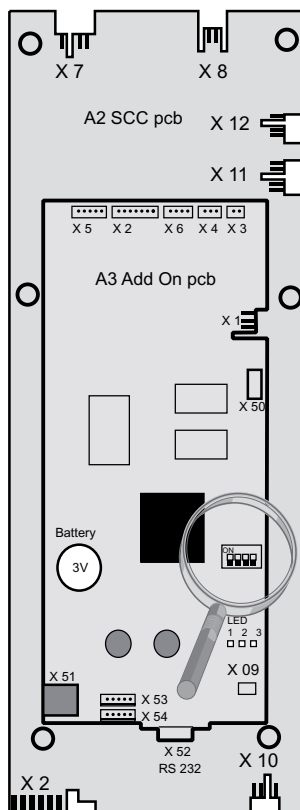
Additional functions possible:

4 Fan speeds (Standard = Level 4), pulsed fan wheel,
½ Energy, HACCP output, ΔT, manual moistening

Humidity control permanently checks the humidity coming from the product.
If needed the humidity flap is being opened in order to reduce the actual humidity to the set value.

Service level SCC

SCC



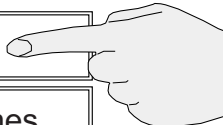
A) Switch on unit

B)  Set DIP 1 on operator PCB to „ON“ position

C)  Press service key

D) On the displays the following available Service - modules will be shown

Window 1

1  Diagnostic

Window 2

2 Running Times

Window 3

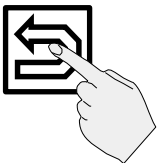
3 Basic Settings

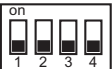
Window 4

4 Function Test



E) Activate selected service module by push on display or push on central dial

F)  Deactivate selected service module by pushing on „return“ symbol

G)  Set DIP 1 on operator PCB to „OFF“ position to deactivate Service level

Starting with software version 01-07-02 gas related information is not shown on electric units!

Notes:

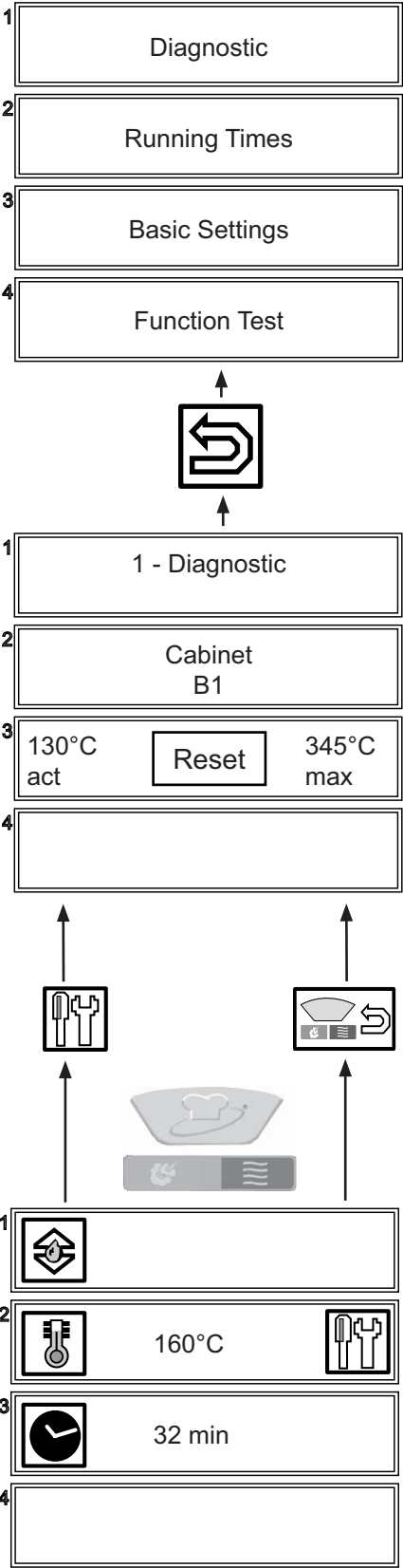
Notes:

SCC

SCC Diagnostic Mode overview

SCC

DIAGNOSTIC
1 - Cabinet B1
2 - Quenching B2
3 - Not used
4 - Humidity B4
5 - Steam Generator B5
6-11 - Core Temp B6-11
12 - Temperature
13 - Level Electrode S2
14 - Door Contact S3
15 - Clima
16 - Clima Status
17 - Clima Motor
18 - Hot Air
19 - Steam
20 - SC Automatic
21 - Volume
22 - M6 CleanJet pump Y2 Quenching solenoid
23 - M7 Drain valve S12 Micro switch
24 - Service Error History
25 - Gas Error History



SCC Diagnostic Mode

SCC

1 1 - DIAGNOSTIC  2 Cabinet B1  3 130°C act Reset 345°C max" 4 - Temp. range: -30 - 340°C (-22 - 644°F) - 900°C (655°C until SW version 01-07-08) broken thermocouple or loose plug - to reset max value press RESET	1 2 - DIAGNOSTIC  2 Quenching B2  3 70°C act Reset 95°C max" 4 - Temp. range: -30 - 340°C (-22 - 644°F) - 900°C (655°C until SW version 01-07-08) broken thermocouple or loose plug - to reset max value press RESET	1 3 - DIAGNOSTIC  2 Not used B3  3 900°C Reset 900°C 4 B3 not used. No function
1 4 - DIAGNOSTIC  2 Humidity B4  3 130°C act Reset 345°C max" 4 - Temp. range: -30 - 340°C (-22 - 644°F) - 900°C (655°C until SW version 01-07-08) broken thermocouple or loose plug - to reset max value press RESET	1 5 - DIAGNOSTIC  2 Steam Generator B5  3 104°C act Reset 115°C max" 4 - Temp. range: -30 - 340°C (-22 - 644°F) - 900°C (655°C until SW version 01-07-08) broken thermocouple or loose plug - to reset max value press RESET	1 6 - 11 - DIAGNOSTIC  2 Core Temp B6 - B11  3 130°C act Reset 305°C max" 4 - Temp. range: -30 - 340°C (-22 - 644°F) - 900°C (655°C until SW version 01-07-08) broken thermocouple or loose plug - to reset max value press RESET
1 12 - DIAGNOSTIC  2 Temperature PCB  3 130°C act Reset 345°C max" 4 - Temp. range: -30 - 85°C (-22 - 185°F) - to reset max value press RESET (keep pressed until value is re-seted) - above 75°C (167°F) warning on window #4 => clean air filter - above 85°C (185°F) => Service 29	1 13 - DIAGNOSTIC  2 Level Electrode S2  3 S2 1 - 0 Y1 0 - 1 4 S2 = 1 => Water level reached S2 = 0 => Water level too low Y1 = 0 => Filling solenoid not active Y1 = 1 => Filling solenoid active	1 14 - DIAGNOSTIC  2 Door Contact S3  3 1 - 0 4 1 - door closed 0 - door open

SCC Diagnostic Mode

1 15 - DIAGNOSTIC 2 Clima P1 - B4 - RPM 3 Default out 0,48V 2,24V 4 B4 85% rpm 145°C 1850 Default: 0,4-0,55V At standard speed: Out ca. 1,3 - 1,6V Combi 200°C (392°F) Out ca. 1,5 - 1,9V Steam 100°C (212°F) Out ca. 2.5 - 3,0V Hot air 60°C (140°F)	1 16 - DIAGNOSTIC 2 Clima Status 3 Cal speed1 Error xxxrpm ----- 4 Dry Wet Combi xxxx xxxx xxxx - Display of calibration values relative to the different motor speeds and unit size; - Normal values between 72000-110000	1 17 - DIAGNOSTIC 2 Clima Motor 3 M3 1-0 4 S4 0-1 No steam production, when S4 is „0“ => open!
1 18 - DIAGNOSTIC 2 Hot Air 3 0% 50% 100% 4	1 19 - DIAGNOSTIC 2 Steam 3 0% 50% 100% 4	1 20 - DIAGNOSTIC 2 SC-Automatic 3 53min Test 4 45sec 60min Window 3: - 53min since last SC -automatic - Pressing Test => time will be set to set time plus 1 minute Window 4: - 45sec: Preset SC-duration (20-90sec) - 60min: Preset SC-time (20-90min)
1 21 - DIAGNOSTIC 2 Volume 3 Calc check 3,6l 4 Fill Norm 3,2l 4,2l Window 3: Release volume Window 4, left side: Filling volume during last SC-Automatic. As of SW version 01-07-04 the filling progress can be observed Window 4, right side: nominal filling volume with a clean steam tank	1 22 - DIAGNOSTIC 2 M6 CleanJet Pump Y2 Quenching solenoid 3 M6 0-1 4 Y2 0-1 As of SW Version 01-07-04 service mode can be selected while CleanJet mode is active.	1 23 - DIAGNOSTIC 2 M7 Drain valve motor S12 micro switch 3 M7 0-1 4 S12 1-0 As of SW Version 01-07-04 service mode can be selected while CleanJet mode is active.

SCC Diagnostic Mode

1	24 - DIAGNOSTIC 	1	25 - DIAGNOSTIC 
2	Service error history 	2	Gas error history 
3	 i.e. (1) Service 10	3	 Gas 1
4		4	0: 09:10.05 9:17 32
- since software version 01-07-09		- since software version 01-07-09	
Indication of the last 10 stored service error messages (see Service error message list page 61-62)		Indication of the last 16 stored ignition box error messages including date and time. 0= ignition box top 1= ignition box bottom	

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Indication of ignition box error messages (1-32 is shown to the operator as „Reset“):

1	Hot air or Steam	no gas, gas valve or electrode defective
14	Hot air	gas valve controll, change ignition box
19	Hot air	no flame because flame current is too low check burner setting, flame current, ignition cable and plug
20	Hot air	wrong or no rpm signal from gas blower check gas blower, power supply gas blower and control harness of gas blower
22	Hot air	no flame after 5 ignition sequences
24	Steam	no gas, gas valve or electrode defective
29	Steam	gas valve controll, change ignition box
30	Steam	no flame because flame current is too low check burner setting, flame current, ignition cable and plug
32	Steam	wrong or no rpm signal from gas blower check gas blower, power supply gas blower and control harness of gas blower
32	Steam	no flame after 5 ignition sequences
		no gas, gas valve or electrode defective

Possible failure in case of „Service 32“

33, 36	Change ignition box
35	Check frequency of main
39	Hot air
	Check burner setting, ignition electrode and distance, and flame current
40	Hot air
	Check ignition cable
42	Steam
	Check burner setting, ignition electrode and distance, and flame current
43	Steam
	Check ignition cable

Is shown on display „Change polarity“

34	Change polarity of mains
----	--------------------------

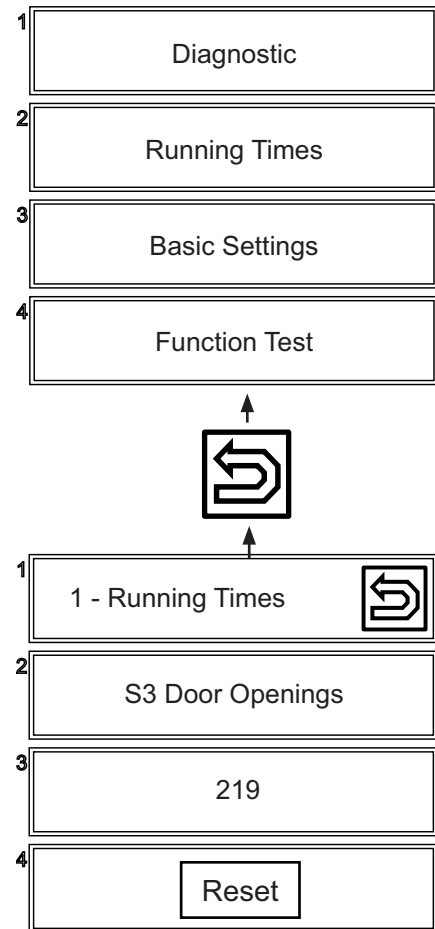
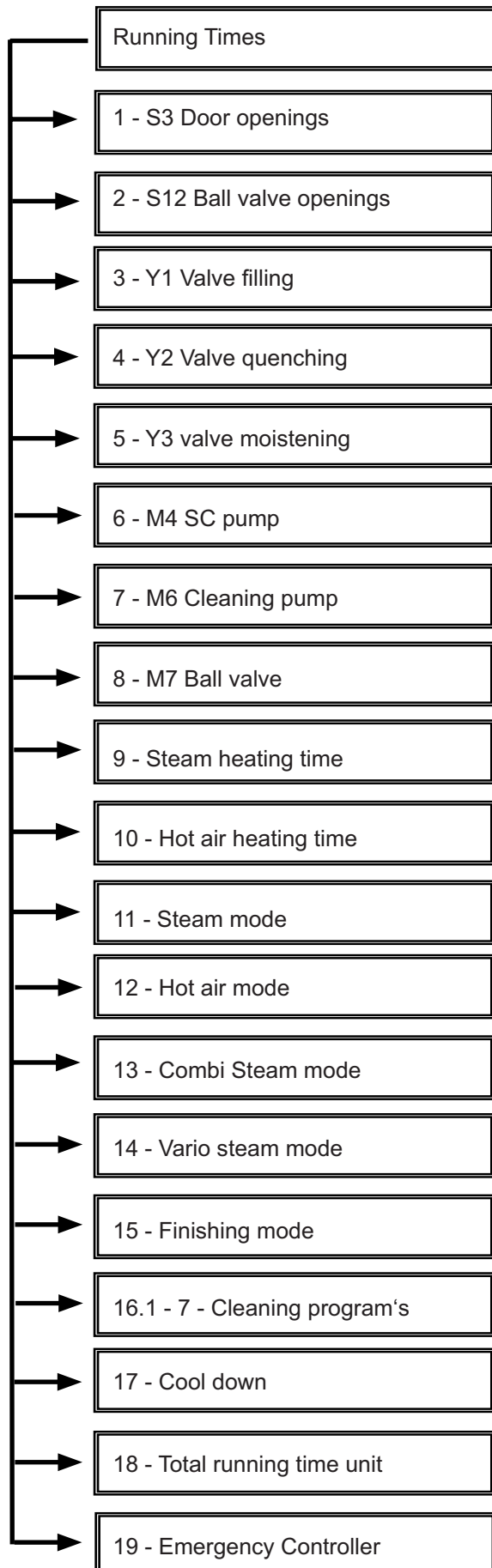


All other numbers (2-13, 15-18, 21, 23, 25-28, 31): change ignition box

Notes: Starting with Software version 01-07-09 the entire information of the service level can be downloaded to memory stick when DIP switch 1 is set to „1“.

SCC Running Times overview

SCC



SCC Running Times

SCC

1 1 - Running Times  2 S3 Door openings 3 835 4 Reset Quantity counter Reset possible	1 2 - Running Times  2 S12 Ball valve openings 3 238 4 Reset Quantity counter Reset possible	1 3 - Running Times  2 Y1 Valve filling 3 120min 4 Reset Indication in minutes Reset possible
1 4 - Running Times  2 Y2 Valve quenching 3 1460min 4 Reset Indication in minutes Reset possible	1 5 - Running Times  2 Y3 valve moistening 3 48min 4 Reset Indication in minutes Reset possible	1 6 - Running Times  2 M4 SC pump 3 715min 4 Reset Indication in minutes Reset possible
1 7 - Running Times  2 M6 Cleaning pump 3 315min 4 Reset Indication in minutes Reset possible	1 8 - Running Times  2 M7 Ball valve 3 55min 4 Reset Indication in minutes Reset possible	1 9 - Running Times  2 Steam heating time 3 4hrs 4 Reset Indication in complete heures Reset possible

SCC Running Times

1	10 - Running Times 
2	Hot air heating time
3	4hrs
4	Reset

Indication in complete heures
Reset possible

1	11 - Running Times 
2	Steam mode
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	12 - Running Times 
2	Hot air mode
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	13 - Running Times 
2	Combi Steam mode
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	14 - Running Times 
2	Vario steam mode
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	15 - Running Times 
2	Finishing mode
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	16.1-6 - Running Times 
2	Cleaning program
3	4hrs
4	

Indication in complete heures
Reset NOT possible

16.1 - Rinse w/o tabs
16.2 - Rinse
16.3 - Intermediate Clean
16.4 - Light
16.5 - Medium
16.6 - Strong

1	17 - Running Times 
2	Cool down
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	18 - Running Times 
2	Total running time unit
3	4hrs
4	

Indication in complete heures
Reset NOT possible

1	19 - Running Times
2	Emergency Controller
3	1
4	Reset

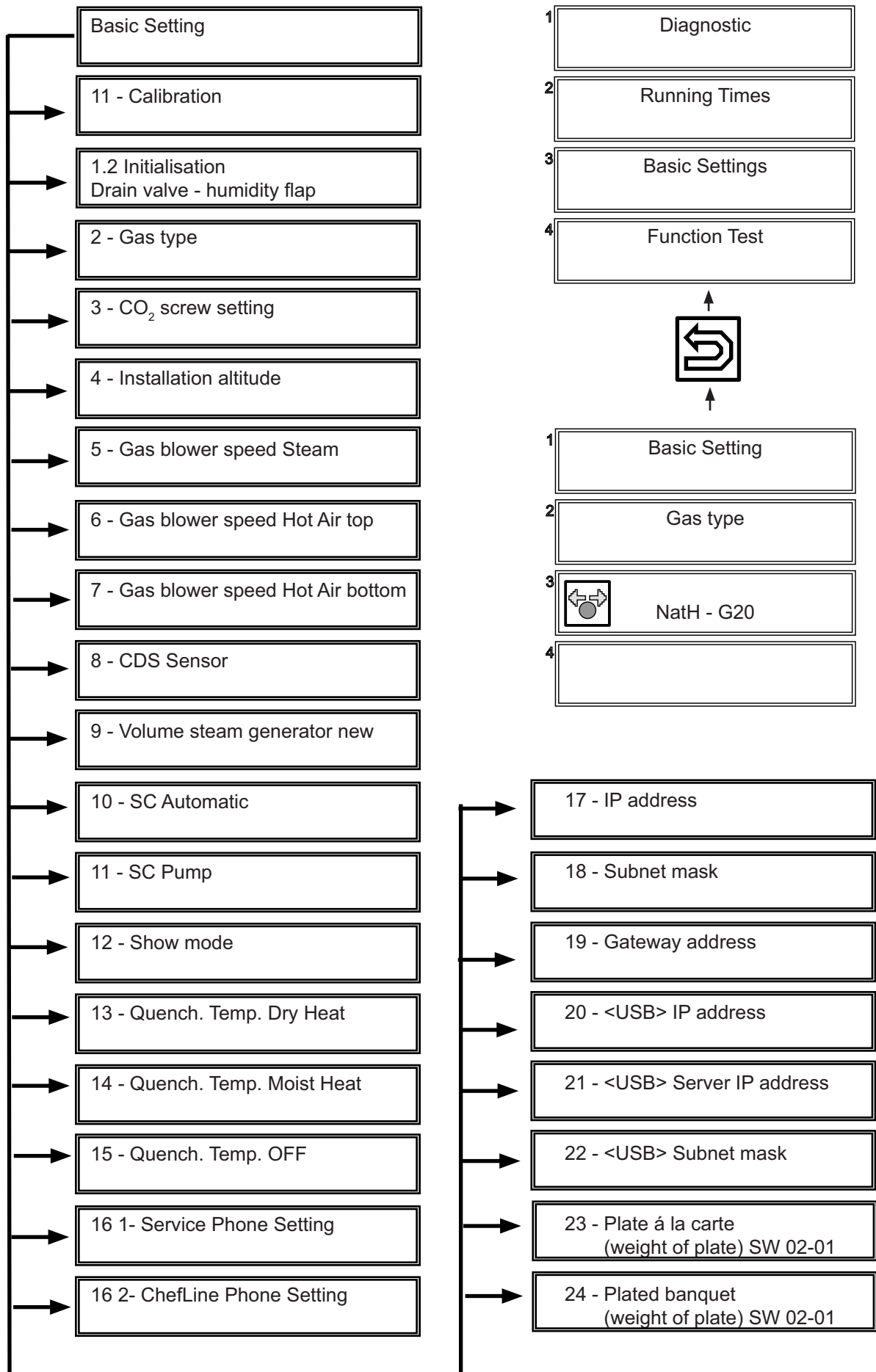
Number of active emergency contr.
Reset possible

Notes:

Overview Basic Settings

NOTE: To validate changes made, switch unit OFF and ON again!

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SCC Basic Settings (switch OFF - ON after adjustment)

1	1 1- Basic Setting								
2	Calibration Start								
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">B1</td> <td style="text-align: center;">B4</td> <td style="text-align: center;">Step</td> </tr> <tr> <td style="text-align: center;">99°C</td> <td style="text-align: center;">95°C</td> <td style="text-align: center;">90</td> <td></td> </tr> </table>		B1	B4	Step	99°C	95°C	90	
	B1	B4	Step						
99°C	95°C	90							
4	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">P1</td> <td style="text-align: center;">RPM</td> <td style="text-align: center;">Error</td> </tr> <tr> <td style="text-align: center;">1,55V</td> <td style="text-align: center;">1550</td> <td style="text-align: center;">0</td> <td></td> </tr> </table>		P1	RPM	Error	1,55V	1550	0	
	P1	RPM	Error						
1,55V	1550	0							

NOTE:

- To prepare unit for calibration run see page 64
- When error is shown switch off and follow Error messages for repair. Afterwards start calibration run once again.

1	1.2 - Basic Setting						
2	Drain valve (Dv) Start						
3	Flap (F) Start						
4	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Dv (t0)</td> <td style="text-align: center;">Dv(t1)</td> <td style="text-align: center;">F-t</td> </tr> <tr> <td style="text-align: center;">8,4s</td> <td style="text-align: center;">28,2s</td> <td style="text-align: center;">19,4s</td> </tr> </table>	Dv (t0)	Dv(t1)	F-t	8,4s	28,2s	19,4s
Dv (t0)	Dv(t1)	F-t					
8,4s	28,2s	19,4s					

- Since software 01-07-11
- Drain valve or flap shall be initialised after indication of Service 26, 27 or 21.
- Times shown above are average times.

1	2 - Basic Setting
2	Gas type
3	3B/P - 3P- A12/13 - Nat.H - Nat.L
4	

- Confirm adjustment by touch on „Store“ icon.
- Corresponding blower speeds are automatically selected and loaded.
- Unit must be switched off and on to store new setting!

1	3 - Basic Setting						
2	3B/P (G30)						
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Steam</td> <td style="text-align: center;">Hot air Top</td> <td style="text-align: center;">Hot air Bot.</td> </tr> <tr> <td style="text-align: center;">4,3mm</td> <td style="text-align: center;">2,8mm</td> <td style="text-align: center;">2,9mm</td> </tr> </table>	Steam	Hot air Top	Hot air Bot.	4,3mm	2,8mm	2,9mm
Steam	Hot air Top	Hot air Bot.					
4,3mm	2,8mm	2,9mm					
4	Set CO ₂ screw Check CO ₂						

- Set CO₂ screw after changing gas type
- Adjust screw to given length.
- After each gas modification a flue gas analysis must be carried out (CO and CO₂ values).

1	4 - Basic Setting		
2	Installation Altitude above sea level		
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">-500-0, 0-499, 500-999 1000-1499, 1500-1999 etc</td> </tr> </table>		-500-0, 0-499, 500-999 1000-1499, 1500-1999 etc
	-500-0, 0-499, 500-999 1000-1499, 1500-1999 etc		
4			

- since software version 01-07-02
- select installation altitude with dial icon
- after 5 sec. „Store“ icon will show
- to confirm press „store“ icon and switch unit off and on again.
- check safe CO₂ values.

1	5 - Basic Setting			
2	Gas blower speed Steam			
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">rpm</td> <td style="text-align: center;">Start rpm xxxx</td> </tr> </table>		rpm	Start rpm xxxx
	rpm	Start rpm xxxx		
4	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Min rpm xxxx</td> <td style="text-align: center;">Max rpm xxxx</td> </tr> </table>	Min rpm xxxx	Max rpm xxxx	
Min rpm xxxx	Max rpm xxxx			

- adjusting speed of blower motor steam (+/-10%)
- change setting only in steps of 60 rpm each.
- modified speed will be shown next to dial icon.
- to store new setting switch unit off and on again.

1	6 - Basic Setting			
2	Gas blower speed Hot Air Top			
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">rpm</td> <td style="text-align: center;">Start rpm xxxx</td> </tr> </table>		rpm	Start rpm xxxx
	rpm	Start rpm xxxx		
4	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Min rpm xxxx</td> <td style="text-align: center;">Max rpm xxxx</td> </tr> </table>	Min rpm xxxx	Max rpm xxxx	
Min rpm xxxx	Max rpm xxxx			

- Adjusting speed of blower motor hot air top (+/-10%)
- change setting only in steps of 60 rpm each;
- modified speed will be shown next to dial icon.
- to store new setting switch unit off and on again;

1	7 - Basic Setting			
2	Gas blower speed Hot Air bottom			
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">rpm</td> <td style="text-align: center;">Start rpm xxxx</td> </tr> </table>		rpm	Start rpm xxxx
	rpm	Start rpm xxxx		
4	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">Min rpm xxxx</td> <td style="text-align: center;">Max rpm xxxx</td> </tr> </table>	Min rpm xxxx	Max rpm xxxx	
Min rpm xxxx	Max rpm xxxx			

- adjusting speed of blower motor hot air bottom (+/-10%)
- change setting only in steps of 60 rpm each;
- modified speed will be shown next to dial icon.
- to store new setting switch unit off and on again

1	8 - Basic Setting		
2	CDS		
3	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">1000</td> </tr> </table>		1000
	1000		
4			

- Value can be adjusted between 900-1150 pulses/litre
- Confirm adjustment by touch on dial icon

SCC Basic Settings (switch OFF - ON after adjustment)

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C
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1 9 - Basic Setting 2 Volume Steam Generator NEW 3 Reset After manual descaling 4 Reset After changing steam generator - since Software version 01-07-02 - Reset (press „for 5 sec.) in window 3 activates SC-automatic to reset the CDS indication. - Reset (press „for 5 sec.) in window 4 activates SC-automatic to get the new reference volume after steam generator change	1 10 - Basic Setting 2 SC Automatic 3 45sec (20-90sec) SC Pump duration 4 60min (20-120min) Steam heating time - Activation by touch on dial icon - Adjust duration with dial - Confirm adjustment by touch on dial icon	1 2 3 4
1 11 - Basic Setting 2 SC Pump 3 CONTINUOUS Puls 4 - Activation by touch on dial icon - Adjust with dial - Confirm adjustment by touch on dial icon	1 12 - Basic Setting 2 Show mode 3 ON - OFF 4 - Activation by touch on dial icon - Adjust with dial - Confirm adjustment by touch on dial icon	1 13 - Basic Setting 2 Quench. Temp. Dry Heat 3 90°C (20- 130°C) 194°F (68 - 266°F) 4 - Setting quenching temperature - Press dial icon - Adjust to new temperature - Confirm adjustment by touch on dial icon
1 14 - Basic Setting 2 Quench. Temp. Moist Heat 3 70°C (20- 130°C) 158°F(68 - 266°F) 4 - Press dial icon - Adjust to new temperature - Confirm adjustment by touch on dial icon	1 15 - Basic Setting 2 Quench. Temp. OFF 3 120°C (20- 130°C) 248°F (68 - 266°F) 4 - Press dial icon - Adjust to new temperature - Confirm adjustment by touch on dial icon	1 16.1 - Basic Setting Service Phone 2 08191-327_ 3 0 1 2 3 4 5 6 7 8 9 4 Delete Store - Change number and confirm by pressing central dial - „Delete“ erases last entered number - Confirm entry by pressing „Store“

SCC Basic Settings (switch OFF - ON after adjustment)

1	16.2 - Basic Setting ChefLine Phone	
2	08191-327_	
3	0 1 2 3 4 5 6 7 8 9	
4	Delete Store	

- since SW 01-07-11
- Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	17 - Basic Setting	
2	IP Address	
3	EDIT	
4	168.65.8.217	

- Press „Edit“
- Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	18 - Basic Setting	
2	Subnet mask	
3	EDIT	
4		

- Press „Edit“
- Change number and confirm by pressing central dial- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	19 - Basic Setting	
2	Gateway address	
3	EDIT	
4		

- Press „Edit“
- Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	20 - Basic Setting	
2	<USB> IP Address	
3	EDIT	
4		

- Press „Edit“
- Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	21 - Basic Setting	
2	<USB> Server IP Address	
3	EDIT	
4		

- Press „Edit“ - Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	22 - Basic Setting	
2	<USB> Subnet Mask	
3	EDIT	
4		

- Press „Edit“ - Change number and confirm by pressing central dial
- „Delete“ erases last entered number
- Confirm entry by pressing „Store“

1	22 - Basic Setting	
2	Plate á la carte Weight of plate	
3	 700-899g	
4		

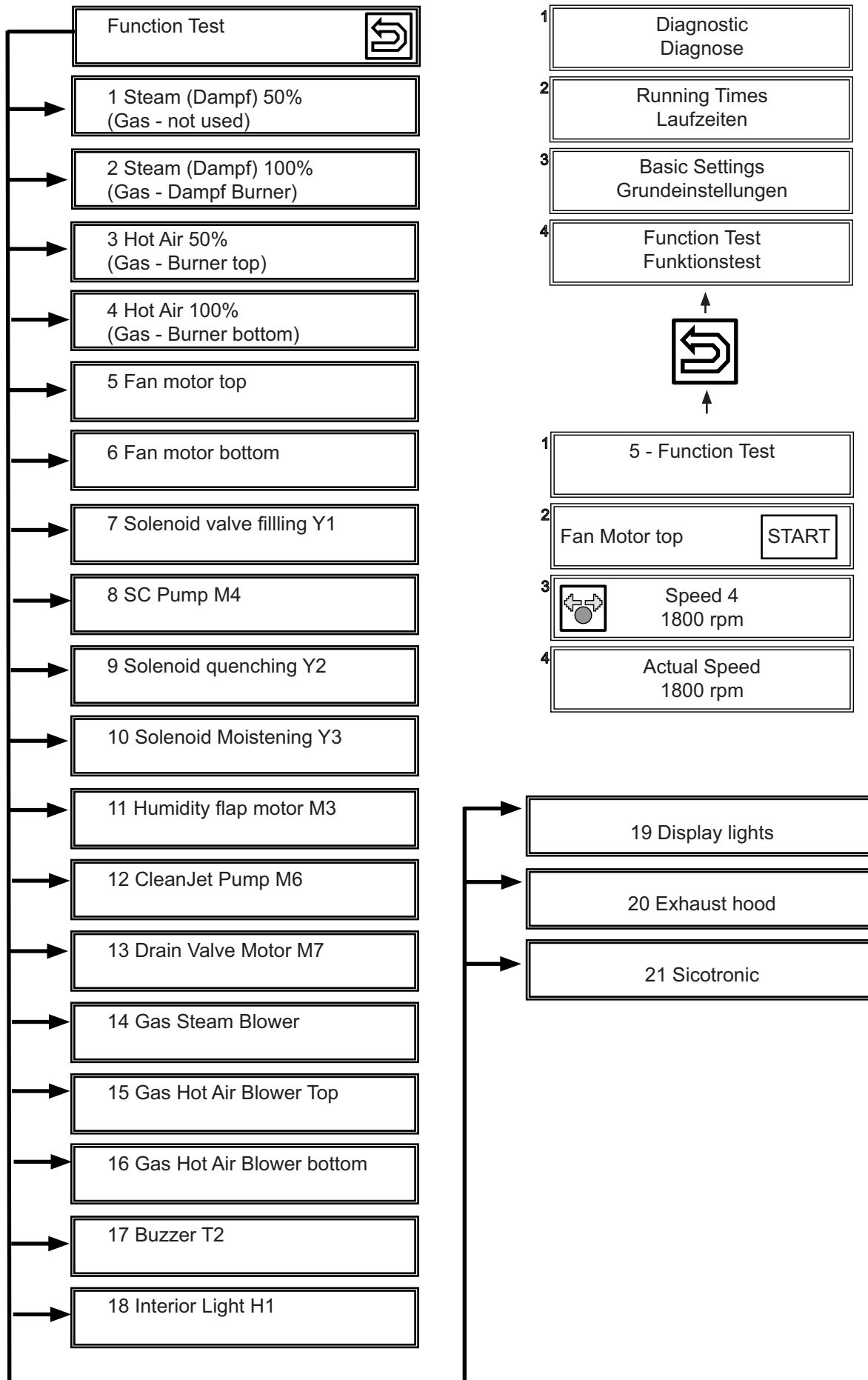
- Press dial icon
- Adjust to correct plate weight

1	22 - Basic Setting	
2	Plated banquet Weight of plate	
3	 700-899g	
4		

- Press dial icon
- Adjust to correct plate weight

Overview Function test

S
C
C



Function test

1 1 - Function Test  2 Steam 50% Start 3 0 - 1 4 Temperature B5 103°C - Electric units: Steam heating 50%; - Gas units: not used - Actual temperature of B5 Attention: Parts are not protected against overload!	1 2 - Function Test  2 Steam 100% Start (Gas: see below) 3 0 - 1 4 Temperature B5 103°C - Electric and gas units: Steam heating 100%; - Indication gas units (window 2): „Steam Gas-Burner“ - Actual temperature of B5 Attention: Parts are not protected against overload!	1 3 - Function Test  2 Hot Air 50% Start (Gas: see below) 3 0 - 1 4 Temperature B1 185°C - Electric units: Hot air heating 50%; - Gas units: Hot air heating 100% - Indication window 2: Table models: „Hot Air Gas-Burner“ Floor models: „Hot Air Gas-Top Burner“ - Actual temperature of B1 Attention: Parts are not protected against overload!
1 4 - Function Test  2 Hot Air 100% Start (Gas: see below) 3 0 - 1 4 Temperature B1 185°C - Electric units: Hot air heating 100% - Only gas floor models: Hot air heating 100% - Indication window 2: „Hot Air Gas-Bottom Burner“ - Actual temperature of B1 Attention: Parts are not protected against overload!	1 5 - Function Test  2 Fan motor top Start 3 Speed 3 1600rpm 4 actual speed xxxx Fan motor top: - Select RPM with central dial (default: second highest RPM): - Typ 61: 500,1100,1550,1650 - Typ 62, 101, 201: 500,1250,1800,1900 - Typ 102, 202: 550,1450,2000,2200	1 6 - Function Test  2 Fan motor bottom Start 3 Speed 4 1900rpm 4 actual speed xxxx Fan motor bottom (only floor model): - Select RPM with central dial (default: second highest RPM): - Typ 201: 500,1250,1800,1900 - Typ 202: 550,1450,2000,2200
1 7 - Function Test  2 Solenoid valve filling Y1 Start 3 1 - 0 4 Level electrode 1 - 0 - Activat. of solenoid valve filling Y1 - Level electrode shows 1 = steam generator filled - Level electrode shows 0 = steam generator partial filled	1 8 - Function Test  2 SC Pump M4 Start 3 1 - 0 4 Level electrode 1 - 0 - Activat. of SC Pump M4 - Level electrode shows 1 = steam generator filled - Level electrode shows 0 = steam generator partial filled	1 9 - Function Test  2 Solenoid quenching Y2 Start 3 1 - 0 4 Temperature B2 36°C - Activation of solenoid valve quenching Y2 - Indication of actual temperature B2 (needed for testing quenching system).

Function test

1	10 - Function Test	
2	Solenoid moistening Y3	Start
3	0 - 1	
4		

Activation of solenoid valve moistening Y3

1	11 - Function Test	
2	Humidity flap motor M3	Start
3	0 - 1	
4	End switch S4	1 - 0

S4 shows 1 = Flap closed
S4 shows 0 = Flap open

1	12 - Function Test	
2	CleanJet Pump M6	Start
3	0 - 1	
4		

Activation of CleanJet Pump M6

1	13 - Function Test	
2	Drain Valve Motor M7	Start
3	Direction 1 -2	
4	End switch S12	1 - 0

Direction 1: Clockwise
Direction 2: Counter clockwise

1	14 - Function Test	
2	CO ₂ measurement	
3	Gas Steam Blower	Start
4	Min - Start - Max	

CO ₂	FC	rpm
List	5,25µA	xxx

Gas blower Steam:

- Reference CO₂ values ONLY to list in training manual „valid since April, 2005“!
- CO₂ adjustment with CO₂ screw on gas valve at Max rpm only.
- **CO₂ too high:**
turn CO₂ screw 2 turns clockw., than counter clockw. until CO₂ value correct;
- **CO₂ too low:**
turn CO₂ screw counter clockw. until CO₂ value correct;
- check CO₂ at Min rpm
- CO value must be always below 300 ppm!
- Flame current should be always above 3,00 µA, ideally 4,0-5,75 µA

1	15 - Function Test	
2	CO ₂ measurement	
3	Gas Hot Air Blower Top	Start
4	Min - Start - Max	

CO ₂	FC	rpm
List	5,25µA	xxx

Gas blower Hot Air top

- Reference CO₂ values ONLY to list in training manual „valid since April, 2005“!
- CO₂ adjustment with CO₂ screw on gas valve at Max rpm only.
- **CO₂ too high:**
turn CO₂ screw 2 turns clockw., than counter clockw. until CO₂ value correct;
- **CO₂ too low:**
turn CO₂ screw counter clockw. until CO₂ value correct;
- check CO₂ at Min rpm
- CO value must be always below 300 ppm!
- Flame current should be always above 3,00 µA, ideally 4,0-5,75 µA

1	16 - Function Test	
2	CO ₂ measurement	
3	Gas Hot Air Blower Bottom	Start
4	Min - Start - Max	

CO ₂	FC	rpm
List	5,25µA	xxx

Gas blower Hot Air bottom

- Reference CO₂ values ONLY to list in training manual „valid since April, 2005“!
- CO₂ adjustment with CO₂ screw on gas valve at Max rpm only.
- **CO₂ too high:**
turn CO₂ screw 2 turns clockw., than counter clockw. until CO₂ value correct;
- **CO₂ too low:**
turn CO₂ screw counter clockw. until CO₂ value correct;
- check CO₂ at Min rpm
- CO value must be always below 300 ppm!
- Flame current should be always above 3,00 µA, ideally 4,0-5,75 µA

Function test

SCC

1

17 - Function Test



2

Buzzer T2

Start

3

0 - 1

4

-

Activation of buzzer T2

1

18 - Function Test



2

Interior light

Start

3

0 - 1

4

-

Activation of interior cabinet light

1

19 - Function Test



2

Display light

Start

3

4

-

Testing of all display lights by pushing and holding Start key. The different lights will be activated in sequence.

1

20 - Function Test



2

Exhaust hood

Start

3

0 - 1

4

-

Relay on pcb

1

21 - Function Test



2

Sicotronic

Start

3

0 - 1

4

-

Relay on pcb

Overview Service messages

Service 10	SC pump
Service 11	CDS Sensor
Service 12	CDS Sensor no signal
Service 13	Steam generator
Service 14	Level electrode - Water
Service 15	Free
Service 16	PCB with old software
Service 17	EEPROM faulty
Service 18	Free
Service 19	Free
Service 20	Thermocouple B1 Cabinet
Service 21	Micro switch Clima Plus
Service 22	Free
Service 23	SSR steam
Service 24	SSR hot air
Service 25	CleanJet no function - Pump
Service 26	Drain valve closed
Service 27	Drain valve doesn't close
Service 28	Steam generator above 180°C
Service 29	PCB temperature
Service 30	Humidity control
Service 31	Core probe
Service 32	Ignition box
Service 33	Ignition, gas supply,
Service 34	Bus signal
Intervall code of intermittent buzzer counted per 5 seconds (broken thermocouple)	
B1	12x per 5 seconds
B2	6x per 5 seconds
B4	5x per 5 seconds
B5	8x per 5 seconds
Core Probe	20x per 5 seconds

Service messages SCC

S
C
C

1 Service 10
(SC Pump) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Display can be cancelled by touch
- SC-automatic didn't pump off
- Check SC-pump

1 Service 11
(CDS sensor) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Display can be cancelled by touch
- Water level o. k.
- Level electrode is working
- Too many pulses from CDS sensor
- Check electrode or water leakage through check valve

1 Service 12
(CDS sensor w/o signal) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Display can be cancelled by touch
- Level electrode o.k.
- Check CDS sensor for blockage (no signal)

1 Service 13

2 Maintenance needed

- Only hot air possible
- No low water signal during last 3x5 minutes of steam production ==> filled by auxilliary mode
- Check 0-1 signal from level electrode to pcb

1 Service 14

2 Maintenance needed
Only hot air manual possible

- Appears for 30 sec. after switch ON
- Display can be cancelled by touch
- Level electrode no water sensing
- CDS sensor measured enough pulses;
- Possible reason osmosis water treatment

1 Service 15

2

Not activated

1 Service 16 

2 Update pcb software first
Unit without function

- Appears for 30 sec. after switch ON
- Only active with pcb-SW version 01-07-09 and eeprom version later than 01-07-09 01-07-09 (Data protection Eeprom)

1 Service 17
(Eeprom not initialised) 

2 Unit without function

- Only active with pcb-SW version 01-07-09
- Data on EEPROM faulty
- New original eeprom needed

1 Service 18

2

Not activated

1 Service 20
(Thermocouple B1 cabinet)

2 Unit without function

- Appears on time
- Thermocouple broken or out of range
- Buzzer sounds 30 seconds
- Unit without function

1 Service 21
(Micro switch ClimaPlus) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Display can be cancelled by touch
- Micro switch ClimaPlus without function during start routine
- Manual cooking without humidity control possible

1 Service 22 

2

Not activated

Service messages SCC

1 Service 23
(Short circuit SSR Steam)

2 No function
Switch unit off

- Since SW 01-07-09 only!
- Display at once when:
Temp. B5 raises above 100°C (212°F) for 60sec. without energy demand
- Intermittent buzzer 30 sec
- Unit without function

1 Service 24
(Short circuit SSR Hot Air)

2 No function
Switch unit off

- Since SW 01-07-09 only!
- Display at once when:
Temp. B1 raises starting from 150°C (300°F) to above 200°C (300°F) without energy demand
- Intermittent buzzer 30 sec
- Unit without function

1 Service 25
(no water circulation) 

2 CleanJet mode no function
Flush cabinet manually

- Appears on time
- Display can be cancelled
- Remove container from cabinet
- CleanJet pump does not deliver
- Fan motor does not reduce speed
- Check water tap, pump, quenching solenoid (refill function), quenching nozzle or or CleanJet pipe for blockage

1 Service 26
(drain closed)

2 No function

- Appears on time when CleanJet is selected
- Cooking not possible - drain closed
- Micro switch drain valve in permanent closed position
- Replace drain valve assembly

1 Service 27
(CleanJet micro switch) 

2 CleanJet No function

- Appears for 30 sec. after switch ON
- Display can be cancelled switch
- drain valve in permanent open position, CleanJet not possible
- Check micro switch drain valve
- Start rinse (abort) program

1 Service 28
(Steam gen. above 180°C)

2 Maintenance needed

- Is displayed at „Service Info“
- Appears if temperature at thermocouple steam generator B5 is above 180°C (300°F)
- Indication goes off when temperature below 110°C (230°F)

1 Service 29
(PCB temperature)

2 Change air filter

- Appears on time after switch ON until temperature is low again
- Temperature PCB above 85°C
- Check air filter, cooling fan and control panel gasket
- Check for external heat sources

1 Service 30
(humidity control) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Display can be cancelled
- Humidity control out of function
- Humidity emergency control active since more than 1 hour
- As of SW version 01_07_04 emergency control is shown with a dot under item „Mod.“

1 Service 31.xx
(core sensor) 

2 Maintenance needed

- Appears for 30 sec. after switch ON
- Core sensor defective
- Hex code (Combination i.e.: 31.10 -->2+8)
- 1: shaft probe 2- 5th probe
- 4: 4th probe 8: 3rd probe
- 16: 2nd probe 32: 1st probe in tip

1 Service 32.0-2
(Ignition box)

2 No function

- since SW version 01-07-09
- Internal Ignition box error is existing longer than 30 sec.
- 0: Ignition box top
- 1: Ignition box bottom
- 2: Both Ignition boxes
- Change ignition box

1 Service 33.1-2
(4x Reset)

2 No function
Close gas valve

- Appears after 4x Reset command without positive result
- 1: Ignition box top,
- 2: Ignition box bottom
- Check ignition wire, ignition box gas valve and gas supply.

1 Service 34.xx
(No bus signal)

2 No function

- Appears as of SW 01-07-02 when bus signal problem
- Hex code (Combination i.e.: 34.10 -->2+8)
- 1: I/O PCB
- 2: Motor bottom
- 4: Motor top
- 8: Ignition module top
- 16: Ignition module bottom
- Check bus cable plug and cable for connection and damage

Notes: _____

The last 10 error messages can be seen in Diagnostic mode 24 „Service error history“

SCC

Calibration SCC

Calibration at the customers site must be done under the following conditions:

Changing the pcb, external EEPROM, B4 humidity sensor, Pressure sensor P1, replacing the air baffle or divider plate between the 2 fan motors of a floor model, fan motor, detaching of the fan wheel and installation of the appliance above 1000m (3000ft) above sea level or below sea level (dead sea).

Basic condition Temperatures:	Cabinet sensor B1 B1 <40°C	Quench. sensor B2 <45°C	Humidity sensor B4 < 40°C
Basic condition Hardware:	Heating: OFF Side panel must be fitted; Unit must be clean, but may be wet	Fan motor: OFF	Humidity flap: Closed

In order to achieve the best possible calibration values, insert
2 GN-container 20 or 40 mm deep with the opening facing downwards
in 61 and 62 units into rail 2 and 5
in 101 and 102 units into rail 3 and 7
in 201 and 202 units 3 GN container into rail 3, 10 and 17

Step	Unit status:	Error code	Reason:
1	Basic conditions o.k?: Continue with step 10	71	Basic conditions not met
10	Measurement: Offset Diff. pressure sensor P1 • Heating: OFF • Motor: OFF • Humidity flap: Closed In case of „13“ check: P1 or 12V power supply to P1	13	Offset out of range
20 (min: 4x20sec; max: 4x180sec)	Controlling with all 4 fan speeds: Steady signal of rpm and pressure • Heating: OFF • Motor: ON • Humidity flap: Closed In case of „20“ check: In diagnostic mode: P1, B4, rpm	20 71	Value out of allowable range Max time of 4x180sec exceeded
30 (4x 30 sec)	Measuring at all 4 fan speeds: Calibration value: cold cabinet • Heating: OFF • Motor: ON • Humidity flap: Closed In case of „50“ check: Überprüfung im Diagnoseprogramm: P1, B4, rpm	50	Calibration value not in expected range (logic)
Step 20 and 30 will run 1x for each rpm setting!			
40 (max. 800 sec)	Filling cabinet with steam until B2 sensor reaches 80°C (176°F) • Heating: ON • Motor: OFF • Humidity flap: Closed In case of „11“ check: Steam heating elements, SSR, quenching sensor	11 71	No steam heating Max time of 4x800sec exceeded
50 (40 sec)	Stand-by in steam saturation • Heating: ON • Motor: ON (lowest speed) • Humidity flap: Closed	none	

Calibration SCC

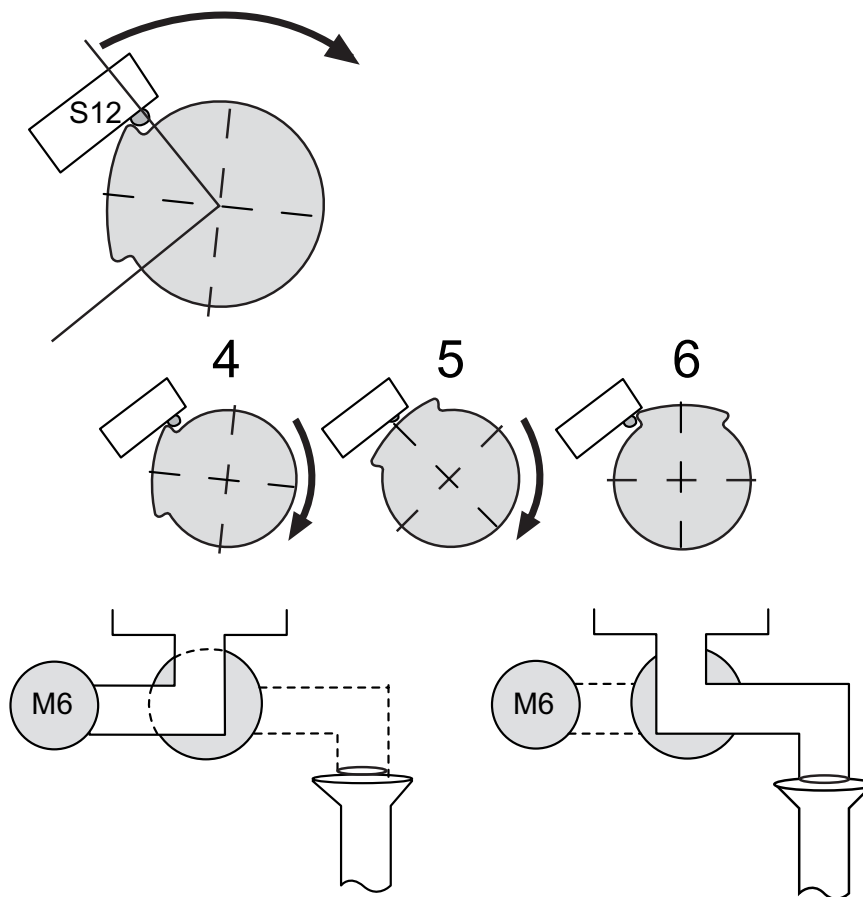
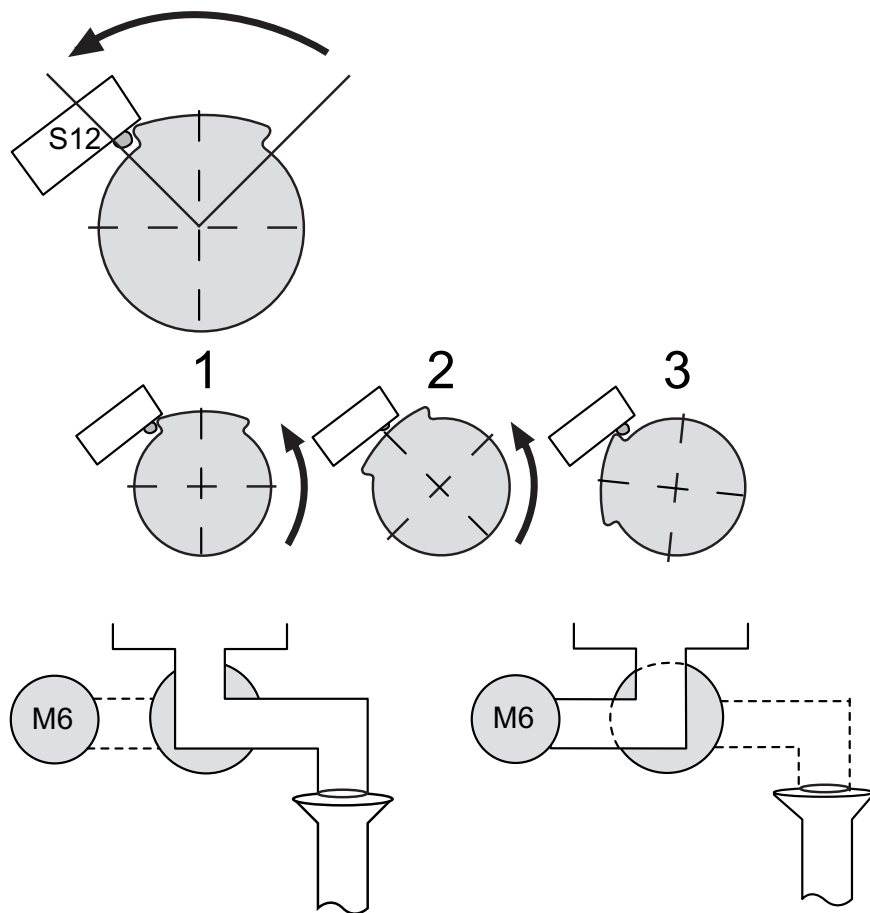
Step	Unit status:	Error code	Reason:
60 (min: 4x20sec; max: 4x180sec) In case of „20“ check:	Controlling with all 4 fan speeds: • Steam Heating: ON 50% • Motor: ON • Humidity flap: Closed In diagnostic mode: P1, B4, rpm	20 71	Value out of allowable range; Max time of 4x180sec exceeded
70 (4x 30 sec) In case of „60“ check:	Measuring at all 4 fan speeds: Calibration value: Steam • Heating: ON 50% • Motor: ON • Humidity flap: Closed In diagnostic mode: P1, B4, rpm	60	Calibration value not in expected range (logic)
Step 60 and 70 will run 1x for each rpm setting!			
75 (min 80sec max 1000 sec) In case of „12“ check:	Heating of cabinet in combi. to 193°C (380°F) • Hot air heating: ON • Steam Heating: ON (when Hot air off) • Motor: ON (max rpm) • Humidity flap: Closed Hot air elements, SSR, cabinet sensor	12 71	No hot air heating Max time of 1000sec exceeded
90 (min 360sec max 1000 sec)	Combination 170°C (338°F) • Hot air heating: ON 50% • Steam Heating: ON (when Hot air off) • Motor: ON (max rpm) • Humidity flap: Closed	none	
100 (min: 4x20sec; max: 4x60sec) In case of „20“ check:	Controlling with all 4 fan speeds: Steady signal of rpm and pressure • Hot air heating: ON 50% • Steam Heating: ON (when Hot air off) • Motor: ON (max rpm first) • Humidity flap: Closed In diagnostic mode: P1, B4, rpm	20 71	Value out of allowable range Max time of 4x240sec exceeded
110 (4x 30Sec) Step 90,100 and 110 will run 1x for each rpm setting! In case of „70“ check:	Measuring at all 4 fan speeds: Calibration value: Combination • Hot air heating: ON if needed • Steam Heating: ON (when Hot air off) • Motor: ON (max rpm first) • Humidity flap: Closed In diagnostic mode: P1, B4, rpm	70	Calibration value not in expected range (logic)
Step 90,100 and 110 will run 1x for each rpm setting!			
900	End – Exit diagnostic program and set DIP 1 to OFF		

For immediate data storage switch unit off and on again!

Status: 01.09.2005

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Control Drain Valve 54.00.357

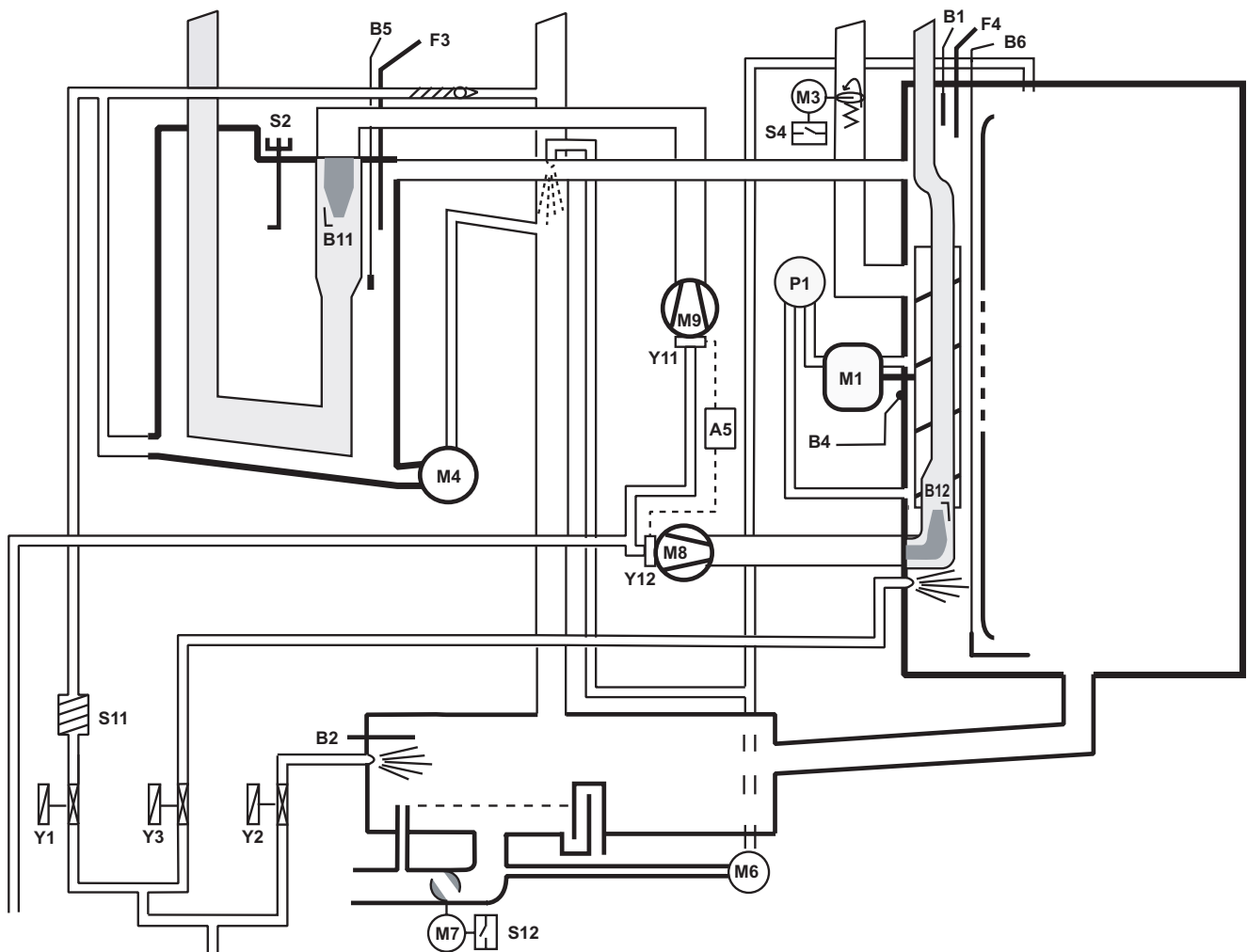


Notes:

Notes:

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SCC Gas from 04-2004



A5	Ignition module
B1	Thermocouple interior cabinet
B2	Thermocouple quenching
B4	Thermocouple humidity
B5	Thermocouple steam generator
B6	Thermocouple core temperature
B11	Ignition/monitoring electrode steam
B12	Ignition/monitoring electrode hot air
F3	Safety thermostat steam generator 135°C
F4	Safety thermostat interior cabinet 360°C
Y1	Solenoid valve filling
Y2	Solenoid valve quenching
Y3	Solenoid valve moistening
Y11	Gas valve steam
Y12	Gas valve hot air
M1	Fan motor
M3	Humidity motor
M4	SC-pump
M6	CleanJet pump
M7	Drain valve
M8	Gas blower motor hot air
M9	Gas blower motor steam

S2	Level electrode
S4	Micro switch humidity motor
S11	CDS sensor
S12	Micro switch drain valve
P1	Pressure sensor humidity

Only floor untis 201 - 202

A6	Ignition module hot air bottom (with jumper)
M2	Fan motor top (with jumper)
M10	Gas blower motor hot air bottom
Y13	Gas valve hot air bottom
B13	Ignition/monitoring electrode hot air bottom

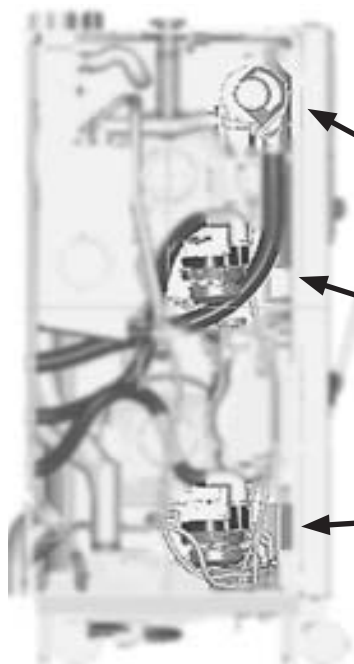
Notes:

S
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C

Basic info about SCC Gas from 04-2004

Identification of the different gas burners / Gas blowers:

SCC 201 - 202

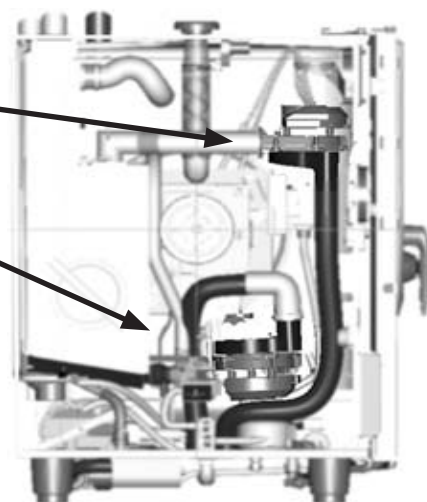


Steam Blower
(ignition box fitted)

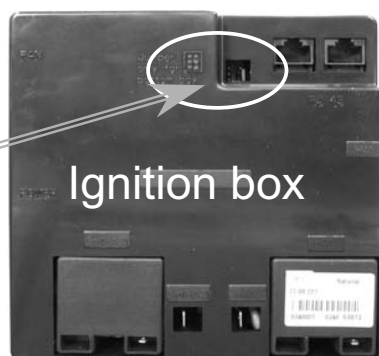
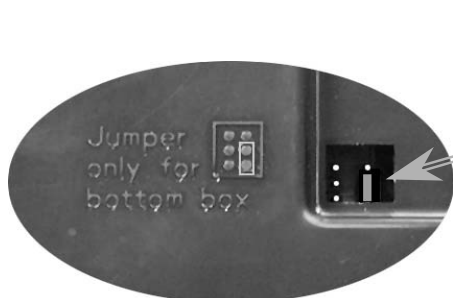
Hot Air blower top
(ignition box not fitted)

Hot Air blower bottom
(ignition box fitted)

SCC 61 - 62 - 101 - 102

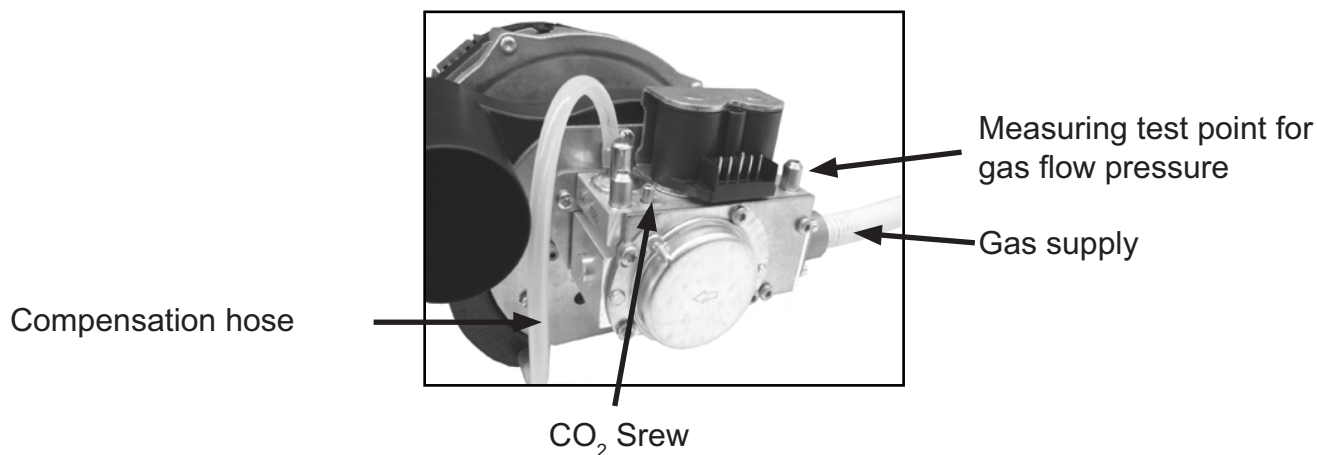


Ignition box of Hot Air Blower, Bottom (201 - 202):

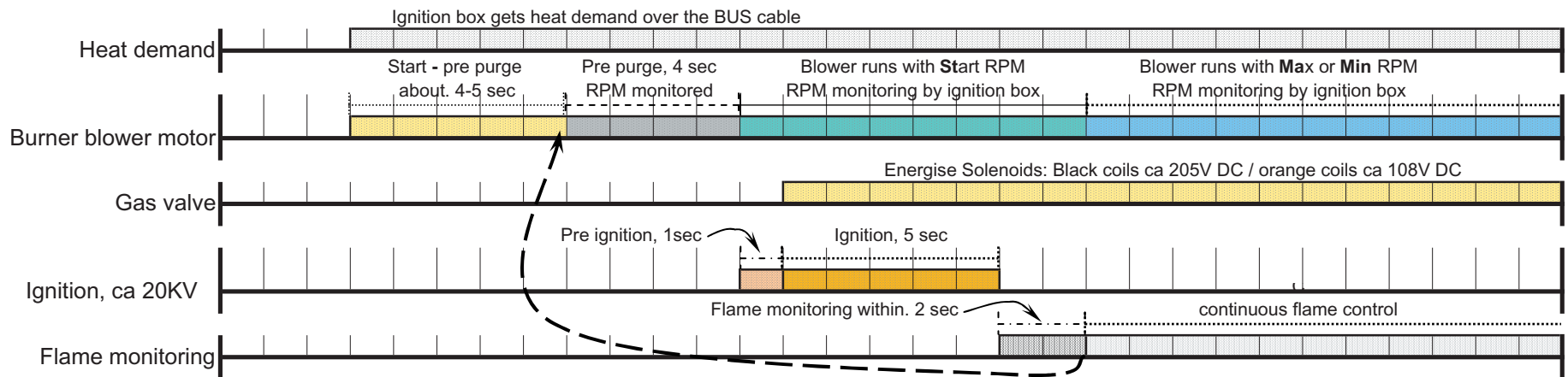
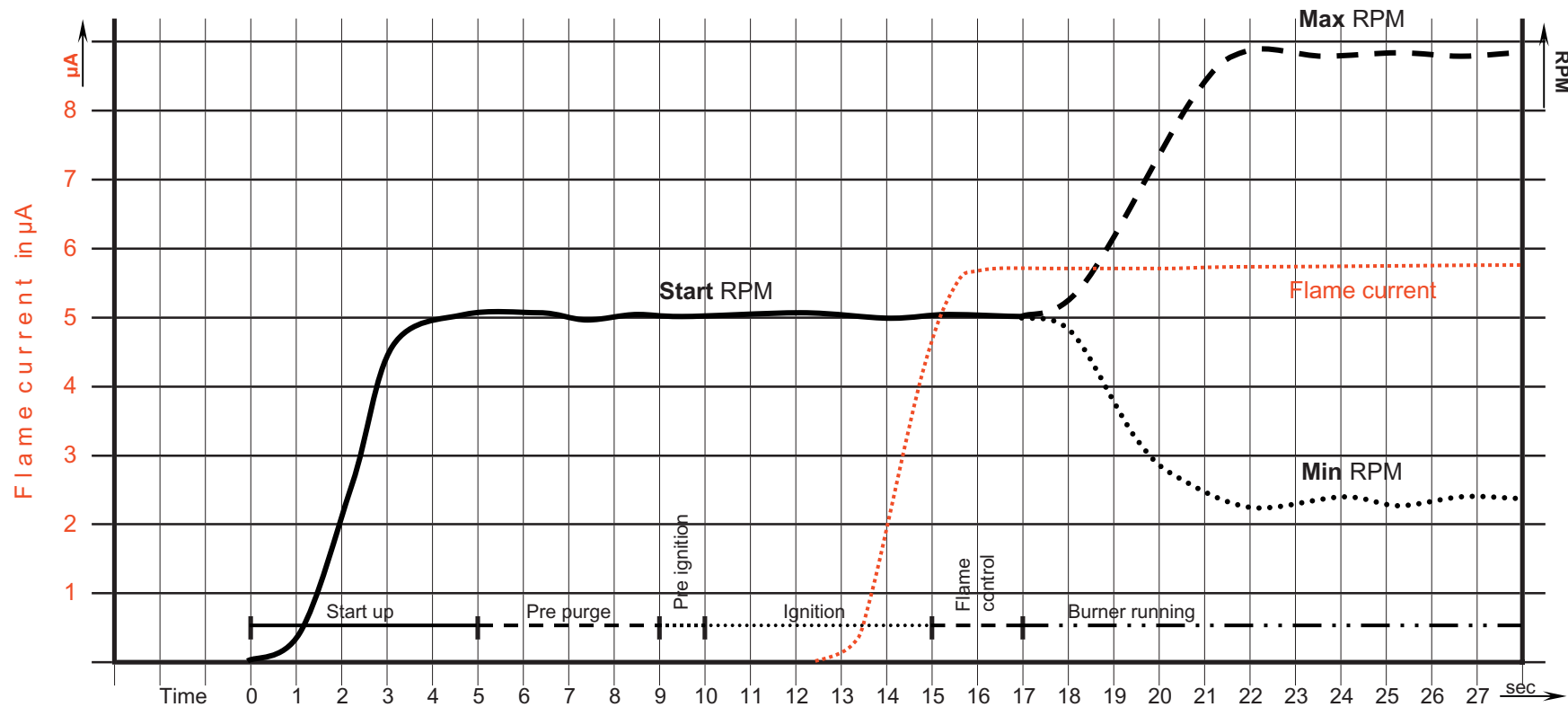


Jumper must ONLY be set on Ignition Box for Hot Air Blower Bottom (201 - 202)

Gas valve components



Sequence of events of Steam / Hot Air Burner (SCC as well as CM)



If no flame detected => new ignition sequence. After 5th ignition without success => RESET

Check Gas Type - Gas conversion : SCC Gas from 04 - 2004



Whenever working on any gas component like:
Gas valve, gas blower and / or changing connected type of gas, a detailed flue gas analysis
MUST be done using adequate CO and CO₂ measuring equipment!
This shall ONLY be done by trained technicians!
Always check appliance for possible gas leakages!

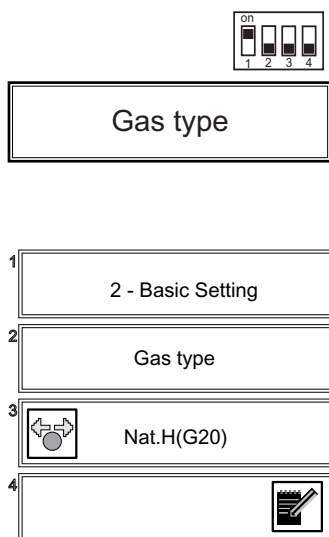
SCC

Danger:

**Changing the gas type of your SelfCooking Center or Combi Master shall only be done if you have a flue gas analyser at hand.
Changing the gas setting only by adjusting the CO₂ screw will result in an unsafe flue gas condition and is dangerous to life and will damage the equipment.**

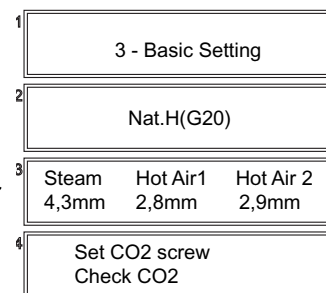
Select Basic Settings:

- A) • Switch on unit
 - Open control panel
 - Set DIP switch 1 on PCB to „ON“ position
 - Select „Basic Settings“
- B) At „Basic Settings“ select position „Gas type“
- C)  Press key and select with the central dial the new gas type
G20=Natural Gas H, G25=Natural Gas L, G30=3BP, G31=3P, 13A=Natural Gas Japan

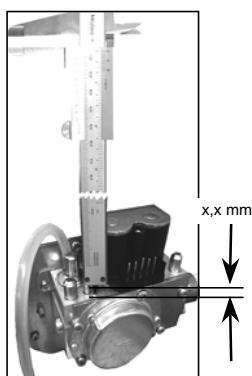


- D)  Confirm new gas setting by pressing the „Store“ key.

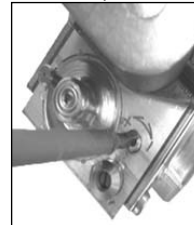
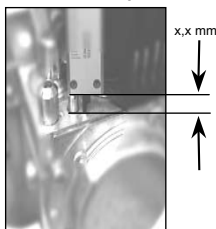
- E) Select 3-Basic settings for average CO₂ length setting.



Note: Setting this screw to the given length shall ONLY bring the unit into working condition with the newly supplied gas.
This does NOT replace flue gas analysis or make the flue gas analysis obsolete!



- F) Set the CO₂ screw according the values of the display or according the table „Values for burner adjustments“(! !! Set all CO₂ screws !! !)
- If the mm setting of CO₂ screw is too high, turn CO₂ screw first 2 turns clockwise and then to the requested length (Screw adjustment tolerance)



- G) Switch unit OFF and ON again to store newly gas type setting!



- H) To exit service program set DIP switch 1 to „OFF“ position



- I) Perform a complete flue gas analysis at Max speed of each burner at the „Function Test“ ,as well as a cross-check of CO₂ at Min speed of each burner at the „Function Test“

Gas Steam Bower

Gas Hot Air Bower Top

Gas Hot Air Bower bottom

Adjustment of installation altitude above sea level

SCC Gas from 04 - 2004

Note: The altitude settings of 0-499 and 500-999m are identical. Therefore resetting of installation altitude needs to be done only when installing above 1000m (3280ft) or below sea level (i.e. Red Sea)



- A) - Switch unit ON
 - Open control panel
 - Set DIP switch 1 on PCB to „ON“ position

Installation Altitude
above sea level

- B) At Basic Settings select position 4 - Installation altitude

- C)  Press Dial key and select desired altitude.

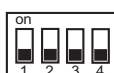
1	4 - Basic Setting
2	Installation Altitude
3	 1000 - 1499
4	

Possible altitude selection:

-500	-	-1m
0	-	499m
500	-	999m
1000	-	1499m
1500	-	1999m
2000	-	2499m
2500	-	2999m
3000	-	3499m
3500	-	3999m
4000	-	4499m
4500	-	4999m

- D)  Confirm new altitude setting with „Store“ key

- E) Switch unit OFF and ON again to store new setting!



- F) To exit service program set DIP switch 1 to „OFF“ position



Perform a complete flue gas analysis at Max speed of each burner at the „Function Test“ ,as well as a cross-check of CO2 at Min speed of each burner at the „Function Test“

Flue gas analysis: SCC gas from 04-2004

SCC



- Before you carry out a flue gas analysis check input gas flow pressure when burner is running
- Switch on unit. Select any mode and cooking time.
Wait till burner works
 - Check input gas flow pressure
 - See correct values of input flow pressure on serial plate
 - If necessary adjust gas input pressure

Flue gas analysis at MAX rpm - Cross-check of CO₂ at MIN rpm

NOTE: Components are NOT protected against overload during function test!

1	14 - Function Test		
2	Gas Steam Blower	Start/Stop	
3	Max		
4	CO2 See list	FC 5,5	xxx rpm

- Select „Function Test“:
- A)
- Switch on unit
 - Open front panel
 - Set DIP switch 1 on PCB to „ON“ position
 - Select „Function Test“
- B)
- Select at „FunctionTest“ the position „Gas Steam Burner“
- C)
- 
- Press key and select „Max“ rpm, if it's not already selected

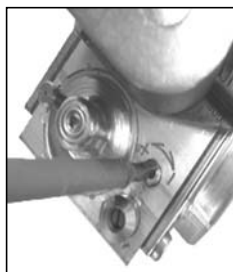
Activate the burner with the „Start“ key.

- D)
- Note: Start key is used as a switch and will automatically deactivate after 4 minutes



Display 4 indicates the desired CO₂ value, e.g. 9,2%, flame current, i.e. 5,2μA and the corresponding rpm of the blower motor.

- E)
- Place flue gas testing nozzle in correct flue outlet
- F)
- „Adjust CO₂ to given value by turning CO₂ screw on gas valve. You also can find that value on table „Values for burner adjustments“
- If CO₂ value is too low => turn CO₂ screw anti clockwise (+ direction),
 - If CO₂ value is too high => turn CO₂ screw first 2 turns clockwise (- direction), and than slowly anti clockwise (+ direction) until you get the indicated CO₂ value. (Screw adjustment tolerance).
 - CO value must be below 300ppm
- G)
- Press „Stop“ key. Blower will stop.



Flue gas analysis: SCC Gas ab 04 - 2004

1	14 - Function Test
---	--------------------

- H)  Press key and select „Min“ speed.

2	Gas Steam Blower Start/Stop
---	--

- I) Activate the burner with the „Start“ key.
Note: Start key is used as a switch and will automatically deactivate after 4 minutes

3	Max
---	-----

4	CO ₂	FC	xxx
	See list	5,5	rpm

Display 4 indicates the desired CO₂ value, e.g. 9,2%, flame current, i.e. 5,2µA and the corresponding rpm of the blower motor.



- J) For CO₂ values also refer to table „Values for burner adjustment“ in this manual.
Carry out a CO₂ measurement to cross-check CO₂ value only.
- K) If CO₂ value is out of allowed tolerance
=> Change gas valve
Press „Stop“ key. Blower will stop.

- L) Select position 15 „Gas Hot Air Blower Top“

1	15 - Function Test
---	--------------------

- M)  Press key and select „Max“ rpm, if it's not already selected

2	Gas Hot Air Blower Top Start/Stop
---	--

- N) Repeat steps D - G at „Max“ blower speed.
NOTE: Adjust CO₂ to given value by turning CO₂ screw on gas valve !!

3	Max
---	-----

4	CO ₂	FC	xxx
	See list	5,5	rpm

- O)  Press Key and select „MIN“ blower speed.

- P) Repeat steps H-K at „MIN“ blower speed.
Carry out a CO₂ measurement to cross-check CO₂ value only.
If CO₂ value is out of allowed tolerance
=> Change gas valve

SCC201 and SCC202 only:

1	16 - Function Test
---	--------------------

- Q) Select position „Gas Hot Air Blower Bottom“

2	Gas Hot Air Blower Bottom Start/Stop
---	---

- R)  Press key and select „Max“ rpm, if it's not already selected

3	Max
---	-----

- S) Repeat steps D - G at „Max“ blower speed.
NOTE: Adjust CO₂ to given value by turning CO₂ screw on gas valve !!

4	CO ₂	FC	xxx
	See list	5,5	rpm

- T)  Press key and select „Min“ blower speed.

- U) Repeat steps H - K at „Min“ blower speed.
Note: Cross-check CO₂ value only. If CO₂ value is out of allowed tolerance => Change gas valve

- V)  To exit service program set DIP switch 1 to „OFF“ position

Values for burner adjustments of gas units SCC / CM (valid since March, 2006), entry in "red" => new

Type of gas	SCC - CM	Steam Burner				Hot Air Burner - Top Side				Hot Air Burner - Bottom Side (only at 201-202)			
		Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%	Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%	Input gas flow pressure	Adjustment of CO ₂ - Screw	CO ₂ at "MAX" rpm ± 0,2%	CO ₂ at "Min" rpm - 0,2% / + 0,5%
Natural Gas High (G20)	61	18 - 25 mbar	3,9 mm	9,4%	8,0%	18 - 25 mbar	3,8 mm	9,4%	8,3%				
	62	18 - 25 mbar	3,4 mm	9,4%	7,9%	18 - 25 mbar	3,5 mm	9,4%	8,0%				
	101	18 - 25 mbar	3,3 mm	9,4%	7,7%	18 - 25 mbar	3,3 mm	9,4%	7,7%				
	102	18 - 25 mbar	4,1 mm	9,4%	8,4%	18 - 25 mbar	3,5 mm	9,4%	8,6%				
	201	18 - 25 mbar	4,1 mm	9,4%	8,2%	18 - 25 mbar	3,4 mm	9,4%	7,8%	18 - 25 mbar	3,4 mm	9,4%	7,8%
	202	18 - 25 mbar	4,1 mm	9,5%	8,8%	18 - 25 mbar	3,3 mm	9,4%	8,7%	18 - 25 mbar	3,3 mm	9,4%	8,7%
Natural Gas Low (G25)	61	18 - 25 mbar	4,8 mm	9,3%	8,2%	18 - 25 mbar	6,0 mm	9,3%	8,0%				
	62	18 - 25 mbar	4,6 mm	9,3%	7,8%	18 - 25 mbar	4,7 mm	9,3%	7,7%				
	101	18 - 25 mbar	4,0 mm	9,3%	7,8%	18 - 25 mbar	4,3 mm	9,3%	7,8%				
	102	18 - 25 mbar	7,0 mm	9,3%	8,0%	18 - 25 mbar	4,5 mm	9,3%	8,3%				
	201	18 - 25 mbar	6,5 mm	9,3%	9,0%	18 - 25 mbar	4,2 mm	9,3%	7,8%	18 - 25 mbar	4,4 mm	9,3%	7,8%
	202	18 - 25 mbar	6,5 mm	9,4%	8,9%	18 - 25 mbar	4,4 mm	9,3%	8,6%	18 - 25 mbar	4,5 mm	9,3%	8,6%
LPG 3BP (G30)				3B/P	100% Butane	3B/P	100% Butane	3B/P	100% Butane			3B/P	100% Butane
	61	30 - 57 mbar	2,6 mm	10,4%	11,6%	30 - 57 mbar	2,5 mm	10,4%	11,6%				
	62	30 - 57 mbar	2,4 mm	10,4%	11,6%	30 - 57 mbar	2,4 mm	10,4%	11,6%				
	101	30 - 57 mbar	2,5 mm	10,4%	11,6%	30 - 57 mbar	2,3 mm	10,4%	11,6%				
	102	30 - 57 mbar	2,5 mm	10,4%	11,6%	30 - 57 mbar	2,4 mm	10,4%	11,6%				
	201	30 - 57 mbar	3,1 mm	10,4%	11,6%	30 - 57 mbar	2,8 mm	10,4%	11,6%	30 - 57 mbar	2,8 mm	10,4%	11,6%
LPG 3P (G31)	61	30 - 57 mbar	2,9 mm	11,1%	9,4%	30 - 57 mbar	2,5 mm	11,1%	9,8%				
	62	30 - 57 mbar	2,7 mm	11,1%	8,9%	30 - 57 mbar	2,5 mm	11,1%	9,2%				
	101	30 - 57 mbar	2,4 mm	11,1%	9,3%	30 - 57 mbar	2,7 mm	11,1%	9,7%				
	102	30 - 57 mbar	2,8 mm	11,1%	9,7%	30 - 57 mbar	2,6 mm	11,1%	9,9%				
	201	30 - 57 mbar	2,6 mm	11,1%	9,6%	30 - 57 mbar	2,4 mm	11,1%	9,1%	30 - 57 mbar	2,4 mm	11,1%	9,0%
	202	30 - 57 mbar	2,3 mm	11,1%	10,7%	30 - 57 mbar	2,3 mm	11,1%	10,0%	30 - 57 mbar	2,3 mm	11,1%	10,1%
Natural gas Japan (13A)	61	18 - 25 mbar	4,2 mm	9,5%	8,6%	18 - 25 mbar	3,5 mm	9,5%	8,4%				
	62	18 - 25 mbar	3,7 mm	9,5%	7,8%	18 - 25 mbar	3,4 mm	9,5%	8,0%				
	101	18 - 25 mbar	3,3 mm	9,5%	8,0%	18 - 25 mbar	3,1 mm	9,5%	8,2%				
	102	18 - 25 mbar	3,9 mm	9,5%	8,5%	18 - 25 mbar	3,4 mm	9,5%	8,5%				
	201	18 - 25 mbar	3,4 mm	9,5%	8,4%	18 - 25 mbar	3,1 mm	9,5%	8,2%	18 - 25 mbar	3,3 mm	9,5%	8,2%
	202	18 - 25 mbar	3,2 mm	9,5%	9,1%	18 - 25 mbar	3,1 mm	9,5%	8,8%	18 - 25 mbar	3,5 mm	9,5%	8,8%

How to carry out a burner adjustment:

- 1.) Check the gas type adjustment at "Basic Settings".
- 2.) Check the given length of the CO₂ screw. See correct values from table above.
- 3.) Check gas input flow pressure. See correct values from table above.
- 4.) Select "Gas Steam Blower" at "Function Test". Exhaust temperature should be during the "gas flow analysis" above 200°C.

Carry out first a CO₂ "Max" adjustment.

Setting of exhaust values only by CO₂ screw adjustment. CO₂ = see table above, CO = below 300ppm, if possible below 100ppm.

Carry out the CO₂ "Min" measurement. At CO₂ "Min" measurement **no** adjustment necessary on the CO₂ screw => !!! **Check only the CO₂ values ! ! !**

Repeat same measurements at "Gas Hot Air Blower Top" and "Gas Hot Air Blower Bottom (201-202)".

Changing gas blower speed (MAX, Start, MIN rpm) SCC Gas from 04 - 2004

- A) - Switch unit ON
- Open control panel
- Set DIP switch 1 on PCB to „ON“ position

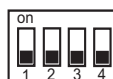


Gas Blower Steam

- B) At Basic Settings select i.e. position 5 - Gas Blower Steam
- C) The factory stored blower speed is shown at MAX, Start und MIN.

1	5 - Basic Setting
2	Gas Blower Steam
3	 Act. rpm xxxx Start rpm xxxx
4	MIN rpm xxxx MAX rpm xxxx

- D) To change the rpm of MAX, Start and MIN, select the desired step.
- E) Set the new speed (given by the manufacturer) using the central dial.
- F) To confirm press the „Dial“ key again.
- G) In order to change the other rpm settings of the same burner repeat steps D-F accordingly.
- H) Switch unit OFF and ON again to store newly gas type setting!
- I) To exit service program set DIP switch 1 to „OFF“ position



Perform a complete flue gas analysis at Max speed of each burner at the „Function Test“ ,as well as a cross-check of CO₂ at Min speed of each burner at the „Function Test“

Flash SCC Software

The actual software version can be downloaded from:
www.rational-ag.de/service/technical_documentation/SCC-Line/Software

Software update by USB-stick

USB stick MUST be formatted in FAT (FAT16) format.

NOTE: Most standard USB Flash stick are not suitable for SCC Flash update!

RATIONAL configured USB Flash memory stick can be ordered under
 part number: 87.00.010

Software can only be updated to the next higher version. Flashing software versions prior to the existing version is NOT possible!

NOTE!

Software update on a unit with unknown software version (in case a pcb from spare part stock is used) or in case the external EEPROM was faulty please observe the procedure on the following page.

For Standard Software Update please proceed as follows:

1. Switch unit on
2. Wait until the operator mode of the SelfCooking Center is displayed.
3. Connect the USB stick with the actual software version to the USB interface of the Rational SelfCooking Center.
4. Switch unit off and on again.
 The unit will display „UPDATE“ followed by „Please don't touch“.
 After the operator mode of the SelfCooking Center is displayed the USB stick can be removed from the unit.

Notes: Please make sure your customer has always the latest software on his unit.

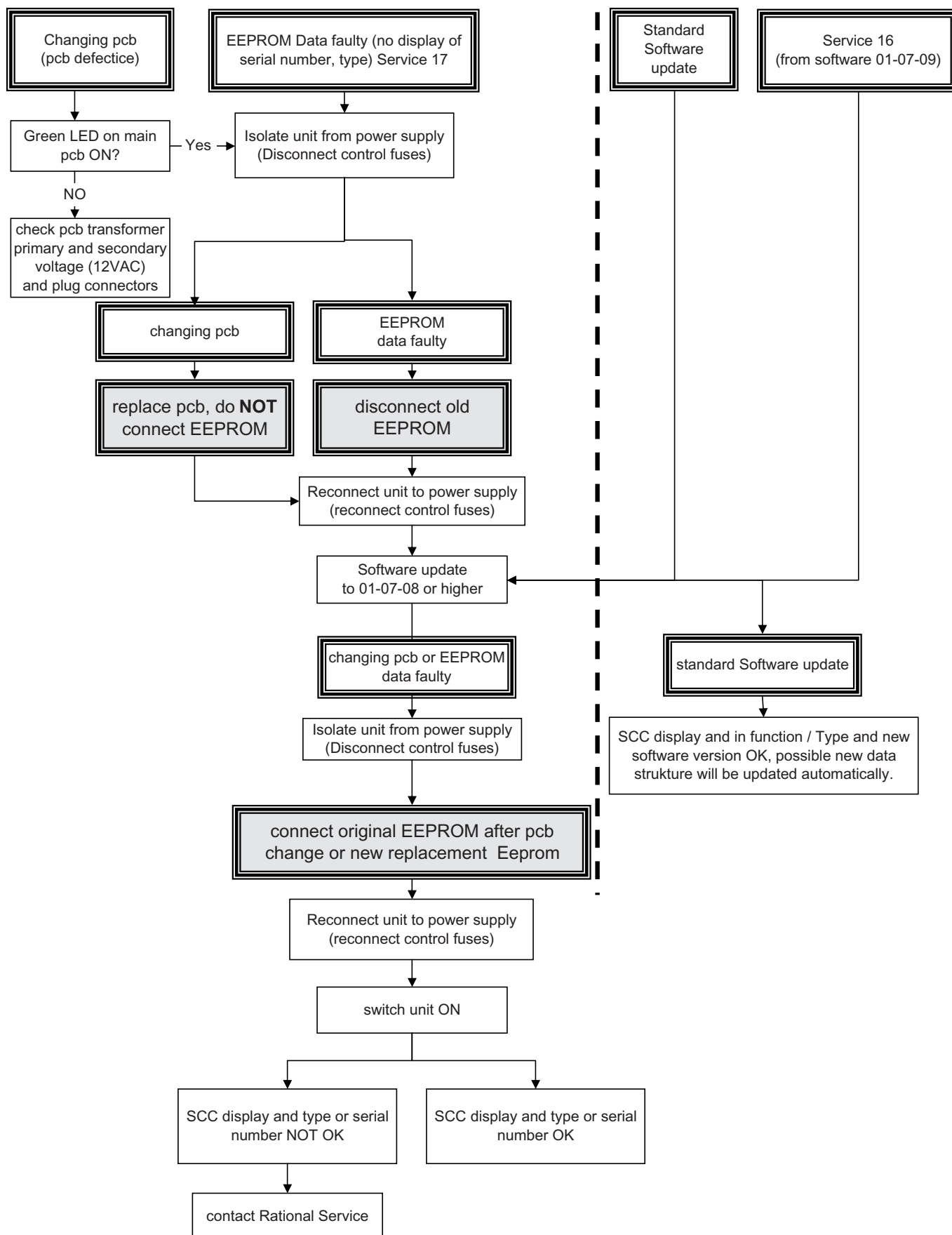
Please make sure you have the latest update.exe dated December, 6th, 2004

(12.06.2004) on your USB memory stick.

Notes:

Changing SCC pcb / changing SCC EEPROM / Software update

COMMON



Notes:

Software update CM units with Flash-Box 87.00.037

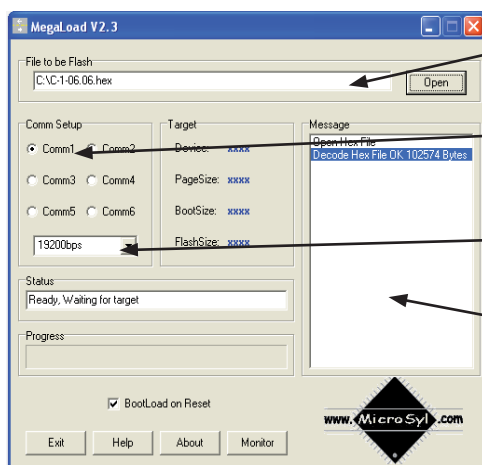
For downloading unit software from PC to CM flash box the program „Megaload“ must be installed on the PC.

This program is available on the Rational Service internet page under:
„Technical documentation/Software update SCC-Line/CM“.

For installation on the PC proceed as follows:

- A) Download Zip file to PC
- B) Open Zip file
- C) Start the program Setup.exe and follow the description on the screen. After the installation of the program Megaload the following procedure must be observed

1. Download CM-Software e.g. C-1-06.05.hex of the above mentioned Rational Service page into a folder (e. g. Desktop) of your computer.
2. Start the program Megaload
3. Carry out basic settings of the Megaload program.



Open CM Software;
e.g.: C-1-06.05.hex

Select desired interface on the PC,
e.g. Com1

Transfer rate must be set to 19200 bps.

On the „Message“ window the progress of
the download software download is indicated.

If your laptop is not equipped with a RS 232 interface (serial interface) an USB - RS232 adapter is required.

Operation and connection of the adapter can be found in the adapter's operator manual

The kit (87.00.037) contains of:

1. Flash box
2. Adapter cable RS 232
3. USB-cable



Hint

The Rs232adapter cable as well as the USB cable are **only** required for down loading the unit software to the Flash-Box. Uploading unit software from Flash-Box to unit only requires the Flash-Box (cables are not needed).

Copying unit software from PC to CM Flash-Box

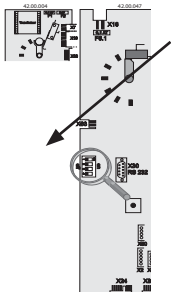


- Open lid of the Flash-Box
- Set DIP - switch 2 to „ON“.
(other switches remain in the off position)

1. Connect RS 232 adapter cable (item 2) to Flash-Box and to the selected interface (e. g. COM 1) of the PC
3. Start program Megaload and open flash software (e.g.: C-1-06.02.hex)
4. Connect USB-cable (item 3) to flash box and PC
5. After the USB cable was connected the files which are transferred will appear on the Message window. An end sign indicates that the transfer is completed.
6. On the flash box set DIP- switch 2 to OFF and 3 to ON (the other switches remain off). Flash-Box is ready for use

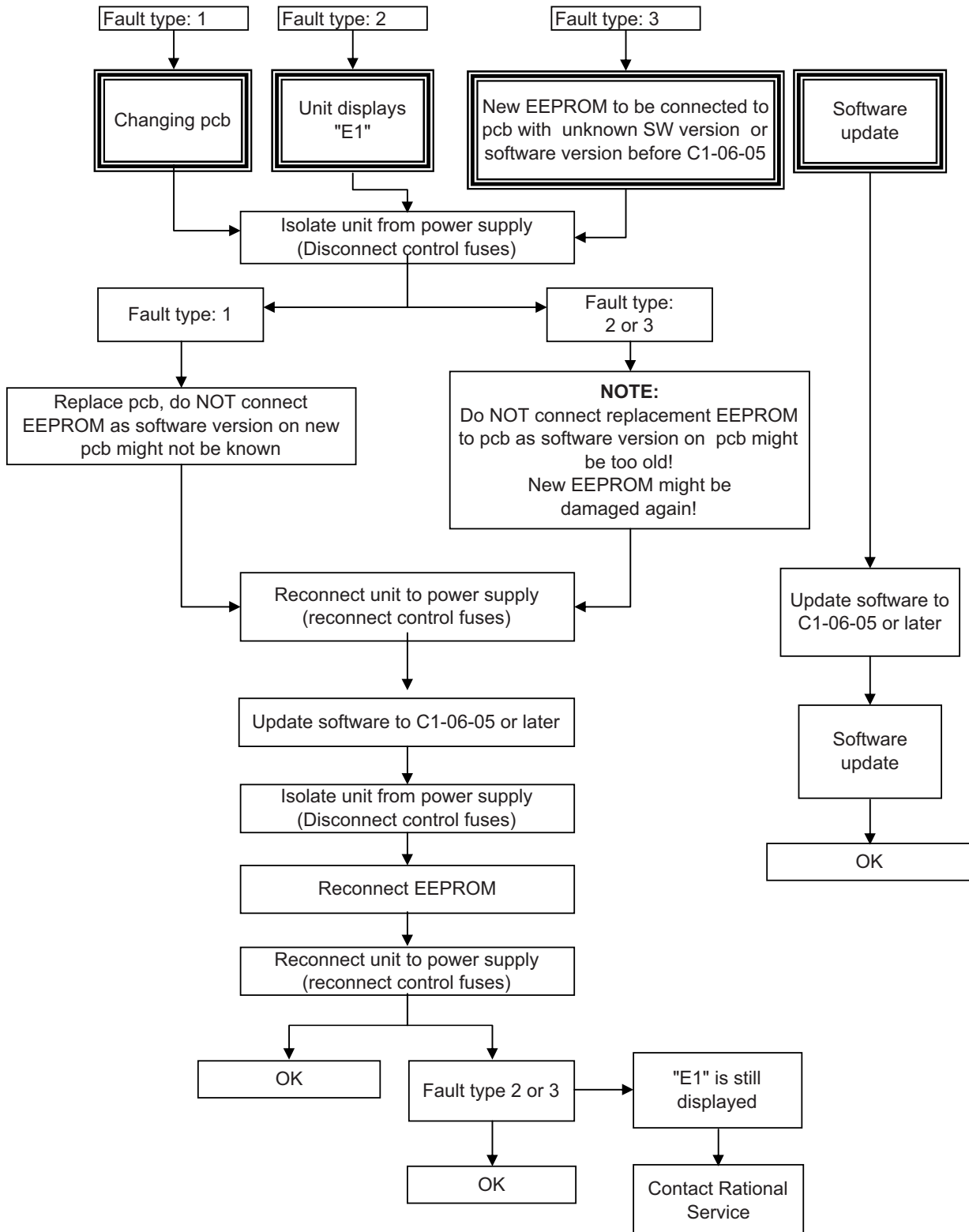
Update unit software with CM Flash-Box to unit

1. Switch off unit with mode switch and open front panel.
Check that DIP 3 is in the ON position.

2.  Connect Flash-Box to RS 232 interface of the operator pcb.

3. Switch on CM unit. After the software update is completed the unit switches off and back on again.
4. Now the Flash-Box can be removed and the unit can be used.

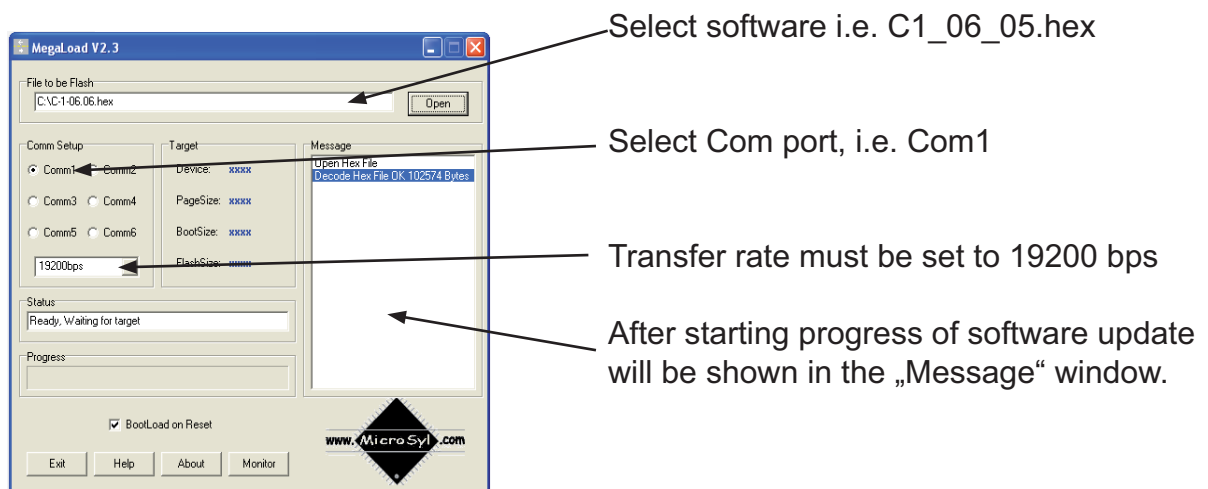
Fault tree: Changing pcb / changing EEPROM / Fault "E1"

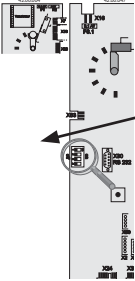


How to update CM units via PC

To update a CM unit of new generation you have to use a software called „Megaload“. To install the Software on your PC, you just have to execute the “Setup.exe” and follow the installation instructions on your screen. After Megaload installation please proceed as follows:

1. Save CM Software i.e. C-1-06.05. hex into a specific directory on your PC, (i.e. desktop)
2. Run Megaload
3. Basic settings of Megaload:



4.  Connect RS232 interface of CM pcb and PC via standard RS-232 cable.
If your laptop should not be equipped with a RS232 interface (serial interface) then a USB - RS232 adapter is required.
For connection and operation of the adapter refer to the user manual of the adapter

5. Switch CM unit on. After switching on you can see in the Message window, how the files are transferred. Successful transmission will be indicated in this window.
6. During flashing the CM display stays dark.
After successful software upload the unit will show the selected cooking mode, temperature and time.
7. Close Megaloder via Exit button, disconnect RS 232 cable between unit and PC
8. CM is ready again.

User instruction electrical descaler pump



The descaler pump 60.70.409 (230V) and 60.70.497 (110V) must only be used to fill chemical part number: 6006.0110 into steam generators of equipment bearing either of the following marks on the data plate:



COMMON



Warning!

When working with chemicals, i.e. aggressive cleaning materials, always wear protective clothing, goggles, face mask and gloves!

Caution:

Please observe all information given on the Material Safety Data Sheet of your descaling chemical!

Only personnel specially trained on handling hazardous materials shall follow the instructions below!

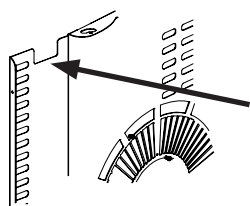
For further and detailed instructions please follow the descaling procedure given in the operator manual of the above mentioned units.

1. Unlatch the left side hinged rack and the air baffle. Swivel them towards the right side.

Insert the pump hose marked with rings into the steam inlet port at the rear left top corner of the interior cabinet.

2. The hose must be inserted at least to the following marking rings:

All electric heated units	3rd Ring 43cm (17")
CM/SCC 61 and 62 Gas:	1st Ring 17cm (6,5")
CM/SCC 101 and 102 Gas:	2nd Ring 31cm (12")
CM/SCC 201 and 202 Gas:	3rd Ring 43cm (17")



To prevent the hose from slipping out of the steam inlet port secure the hook which is attached to the hose at 100cm (40") from end of the hose onto the air baffle cut out for the core probe as indicated.

3. Insert the suction hose of the pump into the descaling liquid bottle. Please observe the below listed quantities for descaler used for the different model sizes. Given Quantities are average volumes and depending on Scale build up inside the steam generator.

Descaler volume for electric units (quantity in gal given as US gallons!)

SCC/CM 61	SCC/CM 62	SCC/CM 101	SCC/CM 102	SCC/CM 201	SCC/CM 202
3,6 L/0,95gal	6 L/ 1,6gal	6 L/1,6gal	8,5 L/2,25gal	9 L/2,4gal	11,6 L/3,06gal

Descaler volume for gas units SCC and CM

SCC/CM 61G	SCC/CM 62G	SCC/CM 101G	SCC/CM 102G	SCC/CM 201G	SCC/CM 202G
4 L/1,1gal	6 L/1,6gal	7 L/1,85gal	9 L/2,4gal	8 L/2,1gal	11 L/2,9gal

User instruction electrical descaler pump

4. Lean the cabinet door close and fill the above mentioned quantity of descaler at 10 sec intervals into the steam generator



NOTE: Descaling liquid can react very violently with the scale inside the steam generator!

Should any foam appear at the steam inlet port stop filling and wash the interior cabinet with fresh water.

5. After filling the required quantity remove the hose from the steam inlet port. Pump the remaining liquid from inside the hose back into the descaler container bottle

6. **Flush and rinse pump and pump hoses with fresh water.**
Caution: not rinsing can cause internal corrosion of the pump.

7. Rinse the cabinet with fresh water.

Follow the further instructions given in the users manual for completing the descaling

COMMON

Descaling interrupt SCC:

As long as no descaler was filled into the steam generator the „Arrow back“ in window 1 is still showing.

After the descaler was confirmed to be filled the only way to interrupt the descaling process is to:

- Switch unit OFF and ON again
 - Press „Abort“
 - Remaining time of 1:08 will be displayed
 - If now the key „Aborted“ is pressed again and the unit is switched OFF and ON again a remaining time of 23 min will show.
 - After another 2 min this time display will drop to 5 min
 - Now the steam generator will be flushed 2x. After this the „Arrow Back“ will be shown.
 - By touching this key the descaling program will be exited
- Note: Rinse the cabinet thoroughly with fresh water and operate the unit in steam mode for some minutes.
- Now the unit can be accessed for cooking again.

Descaling interrupt CM:

- Switch unit OFF and ON again.
- Press core temperature key once.
- Remaining time of 20 min will be shown. During this time the steam generator will be automatically flushed with fresh water and a steam cycle will follow.

Notes: Descaler foot pump is available under service part number 6004.0203



RATIONAL INSTALLATION / COMMISSIONING CHECKLIST SCC / CM

To be completed individually for each Rational Combi installation.

COMMON

This checklist has to be completed and returned within 14 days of installation / commission to validate warranty.

Customer: _____

ADDRESS: _____

TELEPHONE: _____

FAX: _____

SERIAL No _____

COMMISSIONED BY: (Authorized Service Agent) _____

Installation date: _____ / _____ / _____

Commissioning date: _____ / _____ / _____

Installation complies: ☐ does not comply: ☐ with install manual. (Please tick ☒)

Please fill the field which are bold ☐ bordered with the information required.

If the measured values are NOT complying with the values in the installation manual please inform the customer and your Rational dealer / office.

We confirm the installation was done according to the attached installation checklist, the installation manual and all national and local codes which ever may apply.

The equipment was handed over free of defects. Operation, maintenance and cleaning of the equipment was explained.

SIGNATURE / DATE SERVICE AGENT

SIGNATURE / DATE CUSTOMER

PERIMETER CLEARANCES

	All units	Measured space
Left side minimum	50mm (2")	
Left side 201/202 electric unit min.	500 mm (20")	
Left side recommended for all units for service or with adjacent heat source	500 mm (20")	
Rear side	50mm (2")	
Right side	50mm (2")	

Drain connection

	YES	NO
Steam temperature resistant pipe		
(I.e. Part # 8720.1031)_____		
(Flexible hose connection NOT permitted)		
Table unit with P-trap or open drain_____		
Floor unit with P-trap or open drain		
(open drain end not under unit)_____		
Combi Duo connected with separate P-trap or open drain for each unit_____		

Levelling and Floor fixing (observe local codes!)

	YES	NO
Electric 61, 62, 101, 102		
Mounting surface is level?_____		
Unit is level?_____		
Gas 61, 62, 101, 102		
Mounting surface is level?_____		
Stand is fixed to the floor_____		
Unit is secured to mounting surface?_____		
Electric and Gas 61, 62, 101, 102		
Transport trolley is level with unit and stand is fixed to the floor ? _____		
(when mobile oven rack is used)_____		
Electric and Gas 201, 202		
Unit is level?_____		
Unit is fixed to the floor?		
(use part # 8700.0317)_____		
Area under unit level?_____		
Trolley stands level inside the unit?_____		

Water connection

	YES	NO
Cold water service shut off valve for each unit?		
Shut off valve accessible from front by operator		
Pressure reduction valve set at		
350 kpa(3,5bar, 51psi)		
All units: Min: 150 kpa (1,5 bar, 22 psi,)		
Max 600 kpa (6bar, 88psi)		
Water filtration / treatment system installed?		
Manufacturer and type of water filter		
Actual measured water pressure		
(after filter):		

Electrical connection – Observe Local and National Codes!

Connected voltage

L1 – L2	Volt
L1 – L3	Volt
L2 – L3	Volt
L1 - N	Volt
L2 - N	Volt
L3 - N	Volt
N - Ground	Volt

COMMON

	YES	NO
Ground connection to mains distribution panel? _____		
IMPORTANT!! Does indicated voltage on the unit data correspond with the measured voltage? _____		
3 phase breaker installed? _____		
Breaker accessible from front by operator? _____		
Breaker size / Fuse rating _____ A		

Nominal Amp draw per phase Electric units _____ A

	3AC 200V	3AC 230V	3AC 240V	3(N)AC 400V	3NAC 415V	3AC 440V
6 x 1/1	24	25	24	14,5	14,5	13
6 x 2/1	53,5	53	51	30,5	31,5	28
10 x 1/1	48	48	46	27,5	28,5	25
10 x 2/1	100	93	89	53,5	56,5	49
20 x 1/1	100	93	90,5	53,5	56,5	49
20 x 2/1	166	156	149	89,5	92,5	81,5

Measured amps per phase _____ A

Nominal Amp draw per phase Gas units

	1NAC 100V	2AC 200V	1NAC 230V(240V)
6 x 1/1	3	1,5	1,3
6 x 2/1	3,5	1,8	1,5
10 x 1/1	3,5	1,8	1,5
10 x 2/1	4,5	2,3	2
20 x 2/1	7	4	3,5
20 x 2/1	10	5	4,4

Measured amps per phase _____ A

Gas connection – Observe Local and National Codes!		Yes	NO
Required diameter and final connection of individual gas line to each Combi:	All gas units minimum 3/4"		
Individual gas shut off valve installed for each unit?			
Shut off valve accessible from front by operator?			
List type of gas connected (i.e. LPG or Natural, G20, G30):			

Min. required gas flow pressure for all unit sizes when:

All gas units are ON in the kitchen

Natural Gas (49-58MJ/m3)	1,7-2,5 Kpa	COMMON
G20	17-25 mbar	
	6,7-10" w.c.	
	0,25-0,37psi	
Natural Gas (42-48MJ/m3)	2,0-3,0 Kpa	
G25	20-30 mbar	
	6,7-10" w.c.	
	0,25-0,37psi	
LPG	2,5-6,5 Kpa	
G30/31	25-65 mbar	
	10-25" wc	
	0,36-0,95psi	

Measured gas line flow pressure with all gas components in the kitchen (incl. Combi) on high flame.

Measure at the Combi gas valve input test nozzle

Measured pressure:

During testing set Combi to Combination mode 160°C (320°F)

Unit adjusted to installation altitude?

(after adjusting switch unit OFF and ON again!)

applicable only for units with software SCC from 01-07-03, CM from C1-06.03

Flue gas analysis carried out

Measured

CO value Hot air 1 (61-202)
Hot air 2 (201/202)

Steam 1 (61-202)

Measured

CO₂ value Hot air 1 (61-202)
Hot air 2 (201/202)

Steam 1 (61-202)

All gas connections leak tested?

	YES	NO
Exhaust hood		
Exhaust hood installed		
Serial number Rational UltraVent Hood		
Serial number Rational Vent hood		

Function Test	YES	NO
All electrical connections and plugs tight		
All water connections tight and not leaking		
All modes operational		
All additional functions / features operational		
Customer advised in operation and programming		
Customer advised in daily cleaning routine		
Customer advised in preventative maintenance		
(descaling, changing air inlet filter, door gasket cleaning, etc)		

Preventive Maintenance SCC/CM



Customer:

Address Street:

City:

Area (Zip) Code:

Unit Serial Number:

Preventative Maintenance Work Scope:

According Installation manual?

Yes

No

1. Installation

Placement

☐
☐

Water Connection

☐
☐

Water Treatment

☐
☐

Sedimentfilter

☐
☐

Drain

☐
☐

Gas Connection

☐
☐

Electrical Connection

☐
☐

Manufacturer:

Type:

2. Door

Function o.k.

Faulty

Comments:

Door Lock

☐
☐

Door Catch

☐
☐

Door Hinges / Screws

☐
☐

Hinges Inner Glass

☐
☐

Door Gasket (steam tight at 200°C Combi mode)

☐
☐

Door contact

☐
☐

Trolley Gasket

☐
☐

2.1 Mobile Trolley

Function o.k.

Faulty

Comments:

Castors

☐
☐

3. Interior Cabinet

Function o.k.

Faulty

Comments:

Cabinet light

☐
☐

Core probe

☐
☐

Interior Cabinet sensor

☐
☐

Air Baffle

☐
☐

Fan wheel balance

☐
☐

Drain Sieve

☐
☐

Corrosion?

☐
☐

Preventative Maintenance SCC



COMMON

4. Bottom Group	Function o.k.	Faulty	Comments:
Water Connections leak tight	☐	☐	
Hand Shower+Shower hose (Function - non leaking)	☐	☐	
Retracting mechanism	☐	☐	
Drain gasket Floor model	☐	☐	
Drain Connection	☐	☐	
Quenching / Drain box	☐	☐	
Drain valve SCC	☐	☐	
5. Gas Specific parts	Function o.k.	Faulty	Comments:
Burner	☐	☐	
Burner blower	☐	☐	
Connected flow pressure in Combi mode	Measured value: _____ mbar		
Emission Analysis			
CO < 300ppm	Measured value: _____ ppm		
CO2 according list	Measured value: _____ ppm		
Visual Inspection flue vent	☐	☐	
6. Electrical Components	Function o.k.	Faulty	Comments:
Earth Bonding	☐	☐	
Strain relief power cord	☐	☐	
Fuses / fuse holder	☐	☐	
All wires tightly secured	☐	☐	
Contacts of main contactor free / not welded	☐	☐	
Amp. Draw Hot Air	L1: _____ A / L2: _____ A / L3: _____ A		
Amp Draw Steam	L1: _____ A / L2: _____ A / L3: _____ A		
Max Temp. PCB	_____ °C		
Air Filter clean	☐	☐	
7. Dampfgenerator	Function o.k.	Faulty	Comments:
Leak Tight	☐	☐	
Steam generator pump / flushing	☐	☐	
Scale deposit in Steam generator: Visual control	☐	☐	
Level Electrode	☐	☐	

Inspections List



8. Control Panel		Function o.k.	Faulty	Comments:
Control Panel	☐	☐		
Gasket Control Panel	☐	☐		
Dials	☐	☐		
Mode Switch	☐	☐		
Temperatur Control	☐	☐		
Timer function	☐	☐		
Core probe function	☐	☐		
LED-Indicators	☐	☐		
PCB Visual Check	☐	☐		
9. Function Test		Function o.k.	Faulty	Comments:
Function test (Steam, Hot air, Combi etc. according sequence of events)	☐	☐		
Diagnostic Program	☐	☐		
Function test	☐	☐		
Humidity control / Flap motor	☐	☐		
Drain, Drain valve SCC	☐	☐		
Special / Additional Functions(1/2 Speed, Moistening etc:)	☐	☐		
CleanJet Operation	☐	☐		
Entered Service Phone number	☐	☐		
Entered Chef Line Phone number	☐	☐		
Demonstration CleanJet	☐	☐		
Demonstration manual cleaning (SCC and CM)	☐	☐		
10. Electrical Safety Test		Function o.k.	Faulty	Comments:
Tested according Local codes:	☐	☐		
(Technician: Date and Signature)		(Customer: Date and Signature)		

Notes:

COMMON

Water info

Because of continuous examinations of systems for water treatment we would like to offer you a few information on some different systems.

The given statements are only related to Rational units.

If you already have made experiences with systems for water treatment, we would be very thankful if you could send us a short fax about your experiences.

1. Recommended systems for water treatment:

A) With pure scale problems in the steam generator we recommend hydrogen-(H⁺)-ionic exchanger. These type of filters will extend the intervals of descaling to approx. 5 to 8-times of the normal descaling intervals. But even with this type of filters it is still necessary to descale the steam generator.

B) With a high chloride – content above 150mg/l of water, it is possible, that the interior cabinet starts to corrode. To remedy this problem it is necessary to install a reverse - osmosis – filter.

C) With chlorine-contents above 0,2 mg/l of water an active carbon filter should be installed, to avoid corrosive radicals when chlorine is heated up.

D) If the water is soiled with sand, iron particles or suspended matters a particle filter with 5-15 µm is recommended.

2. Limited recommended systems for water treatment.

A) Phosphate dosing systems

For verifying the function of this system, it is necessary to mix the water with a very high content of phosphate. Because of this the maximum allowed content of 5 mg phosphate per litre of water will be exceeded. This means the water has no drinking water quality any more. Therefore phosphate dosing systems can only be recommended for avoiding scale in the quenching chamber as it is not necessary to have drinking water quality for the quenching system.

B) Physical systems for water treatment:

On some sites this type of water treatment (is directly installed in the water supply of the unit) showed satisfactory results. On other sites there was no positive effect visible with this type of system. Because of these circumstances we can not make a final assessment of this system.

3. Not recommended systems for water treatment.

A) Sodium-Ionic exchanger:

With this filter system calcium is replaced by sodium. On chlorine contents of the water above 50mg/l, sodium reacts with chlorine to NaCl (=salt). This increase of salt in the water results in a delay in boiling of the water. This delay in boiling can cause "spitting" steam generators.

B) Silicate-dosing systems:

This kind of systems are problematic, as the adding of non conductive silicates, will influence the water level measurement.

Rational recommends Water treatment filters systems of BRITA company.

Notes:

SCC Fault list - Troubleshooting

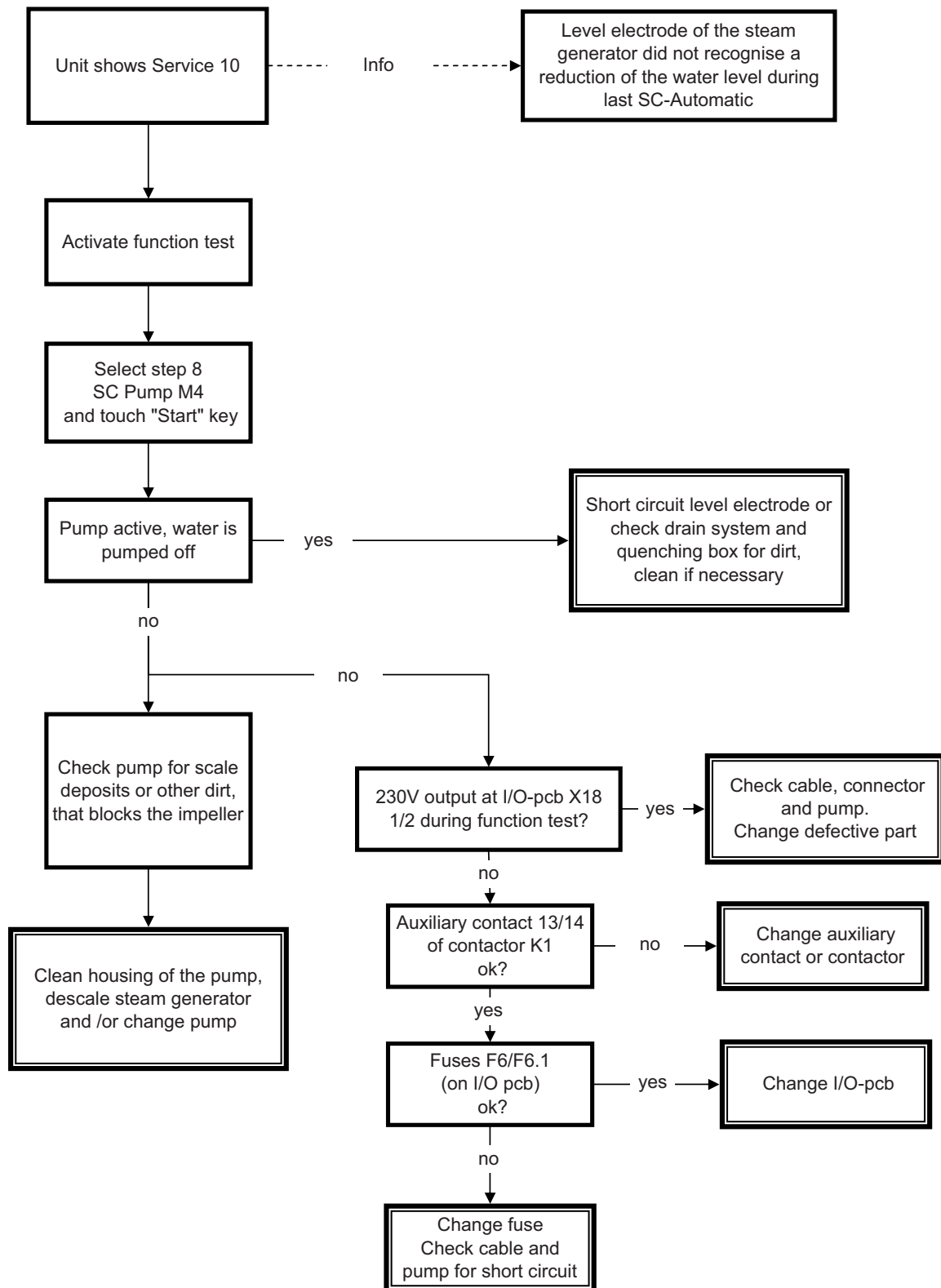
Page:

1.	Service 10	97
2.	Service 11	98
3.	Service 25	99
4.	Service 26 - 27	100
5.	Gas - Service 34	101
6.	No Function	102
7.	No Steam	103
8.	PCB change	104
9.	Gas - Reset, Polarity	105
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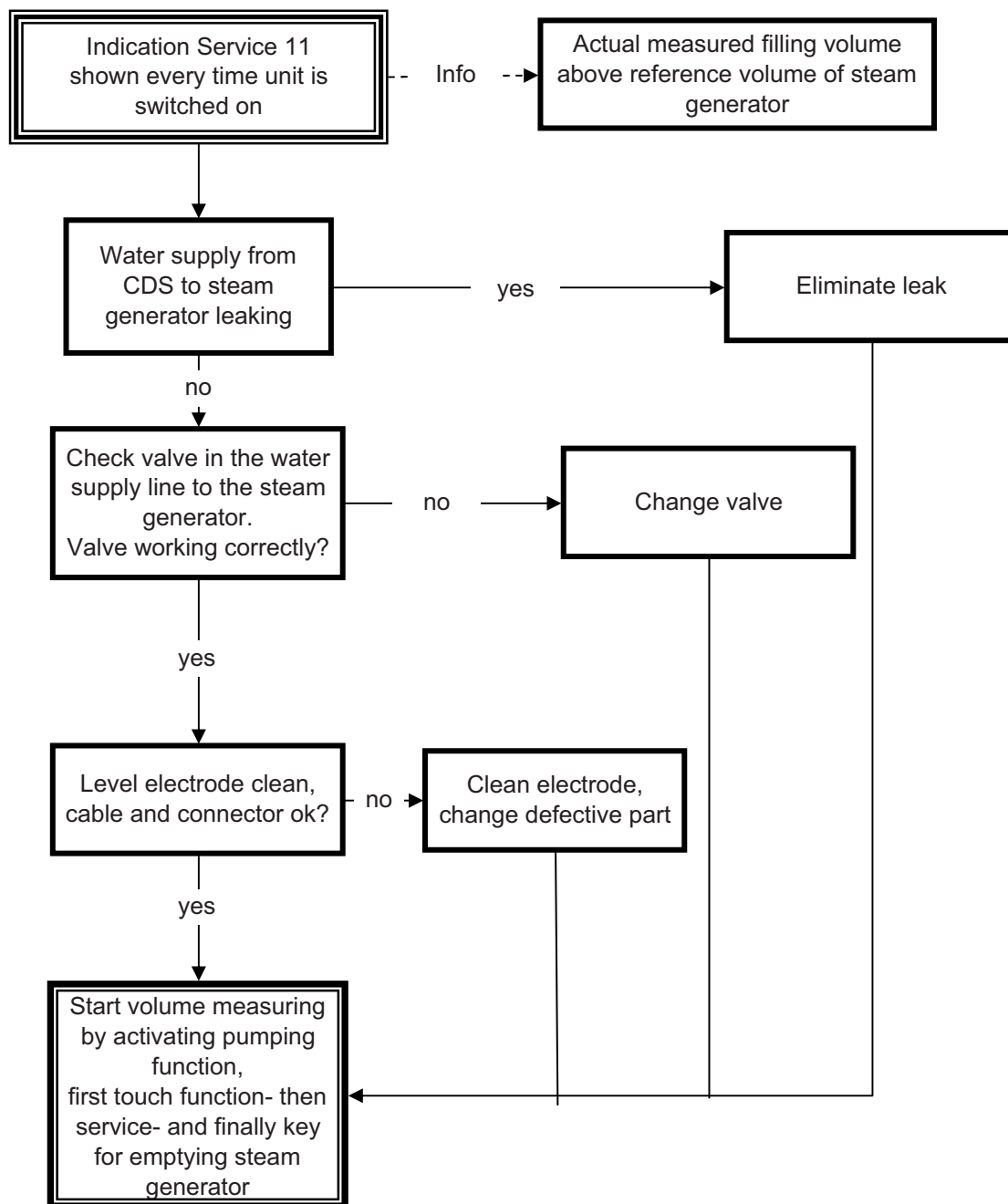
CM Fault list - Troubleshooting

1.	No Function	108
2.	No Steam	109
3.	PCB Change	110
4.	Buzzer sounds	111
5.	E13 - SC-Automatik	112
6.	Reset, Polarity	113

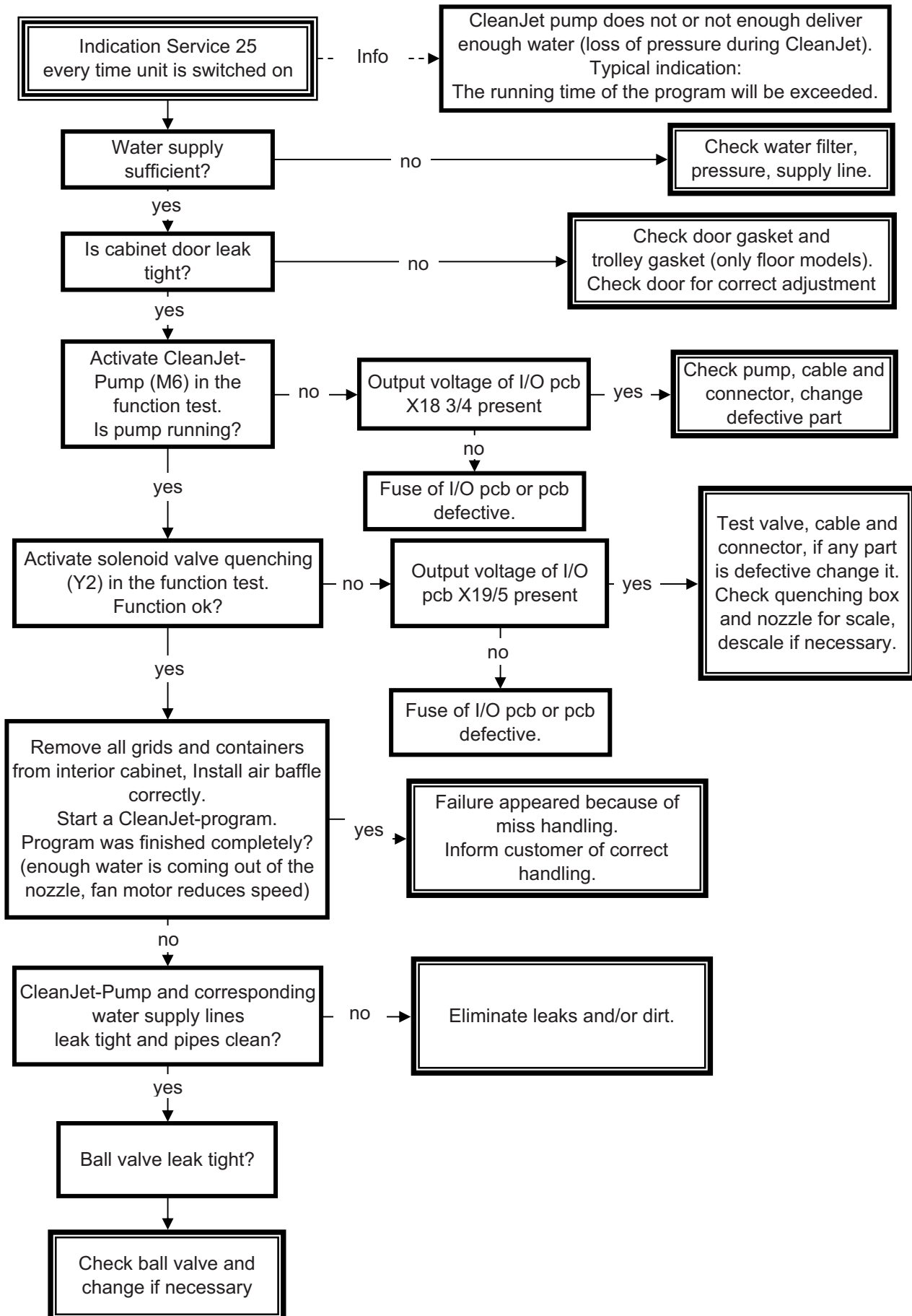
Service 10



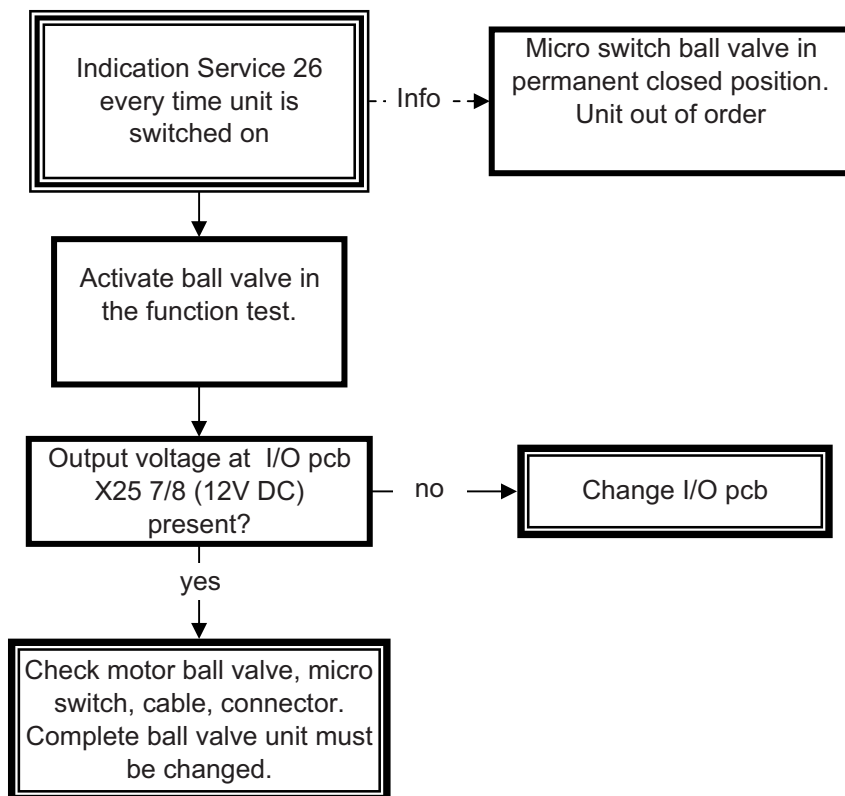
Service 11



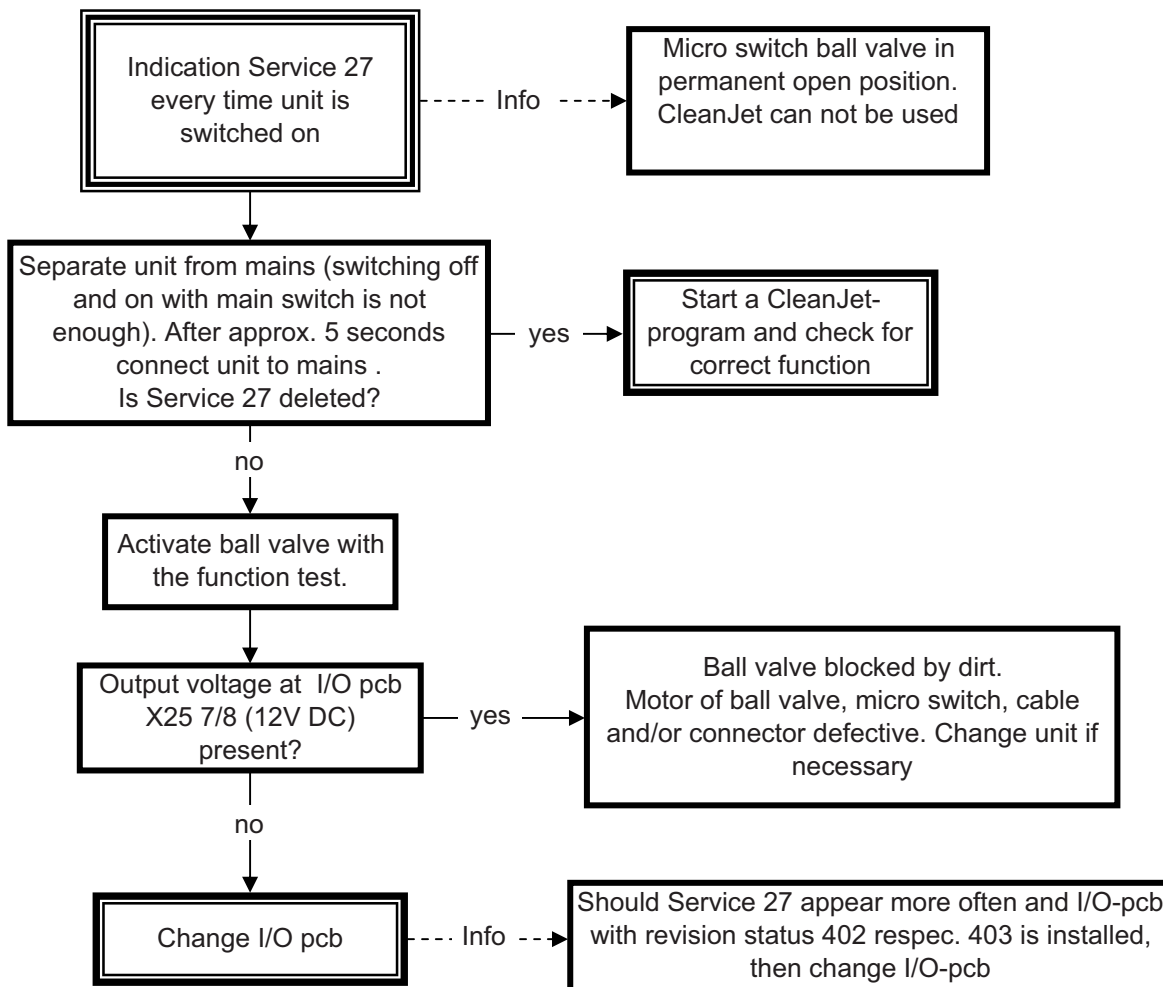
Service 25



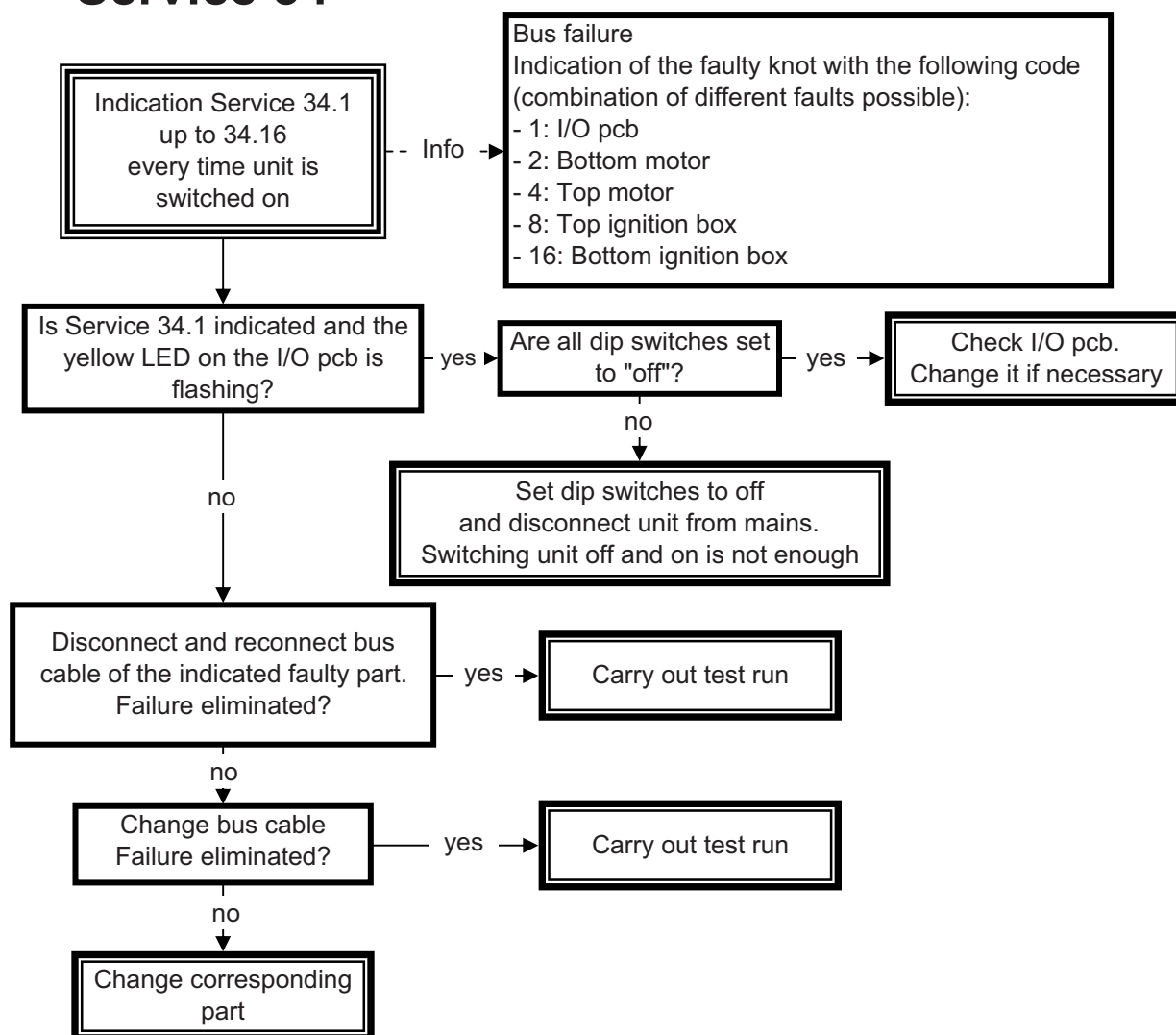
Service 26



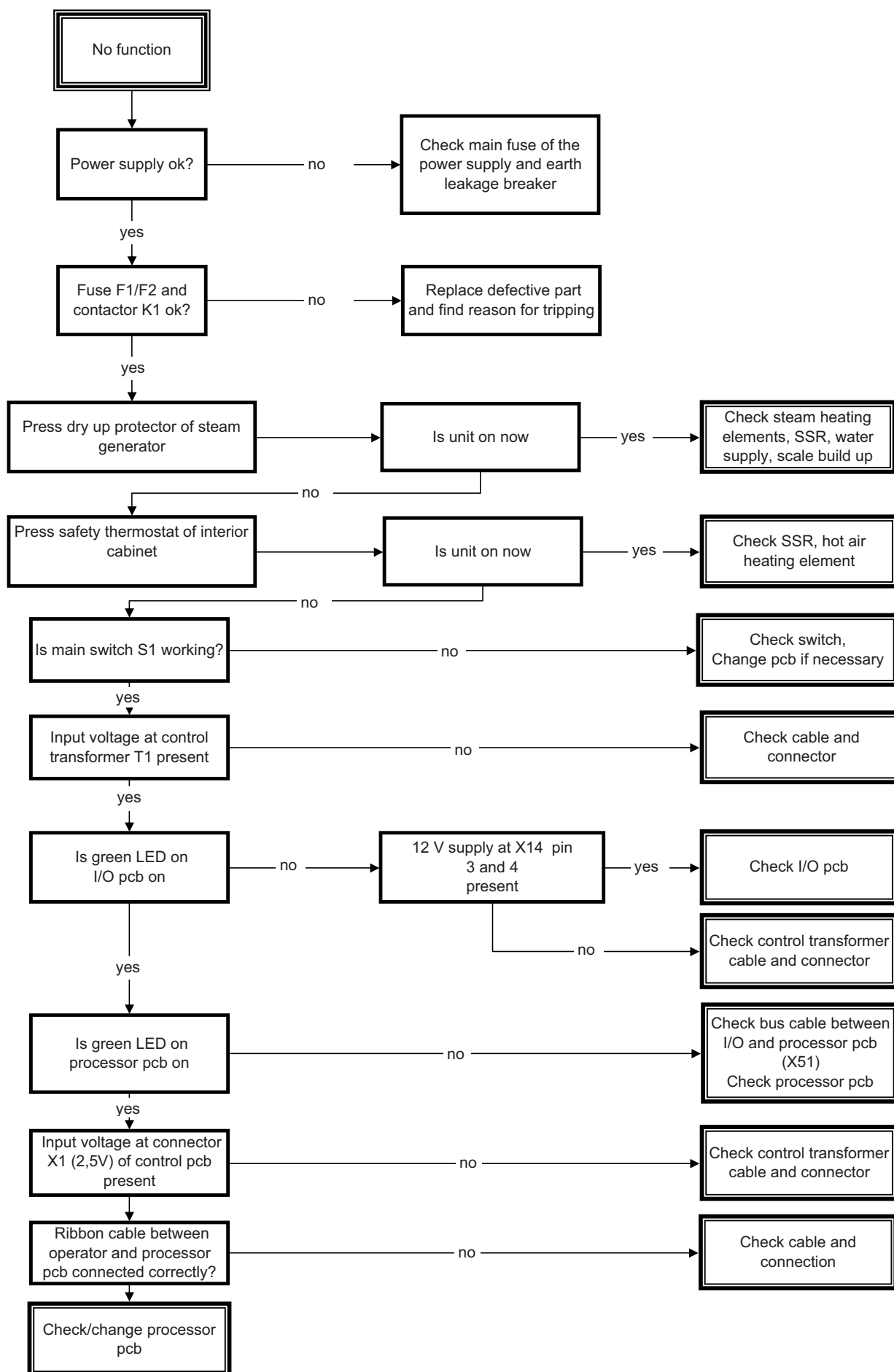
Service 27



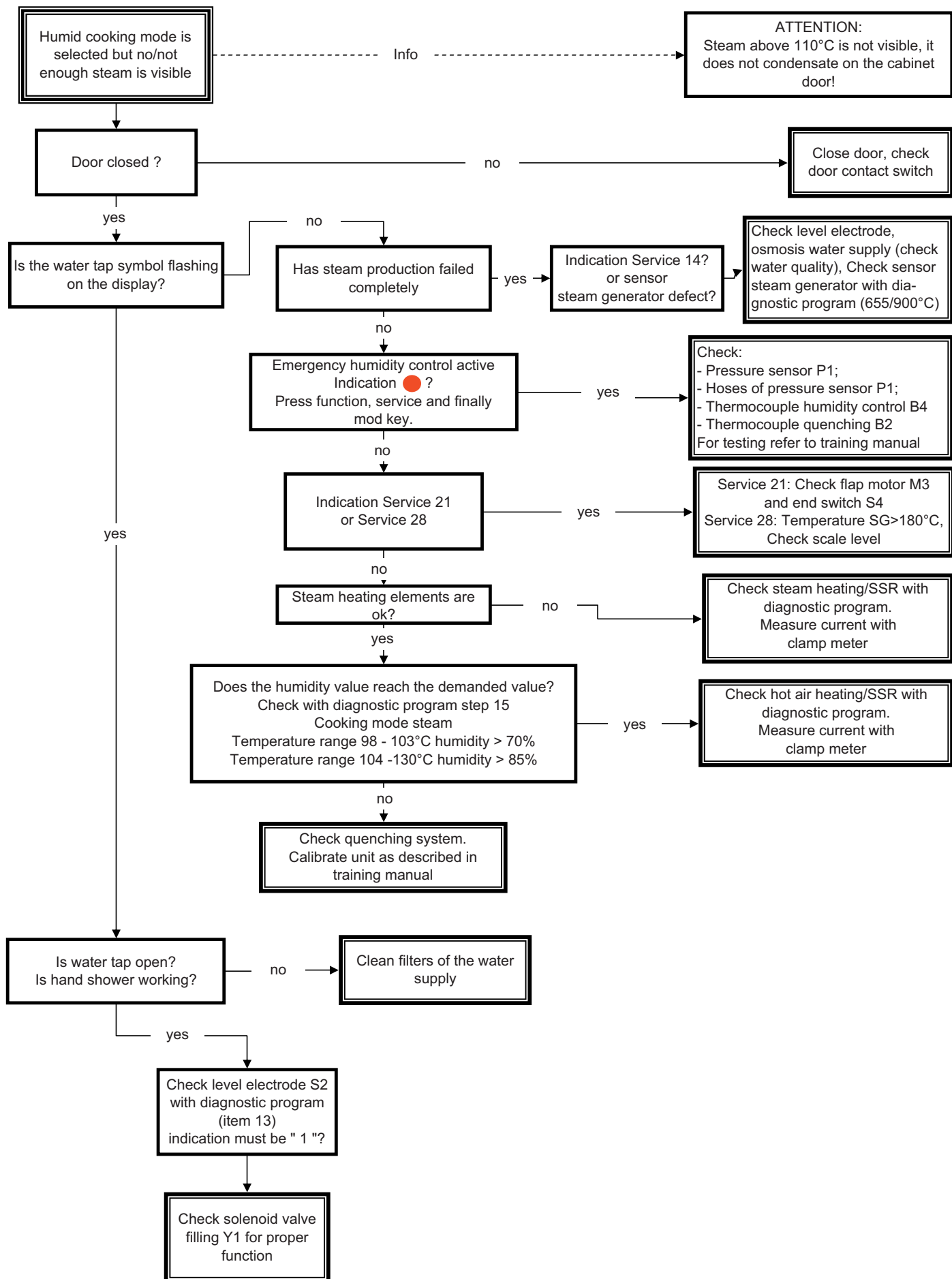
Service 34



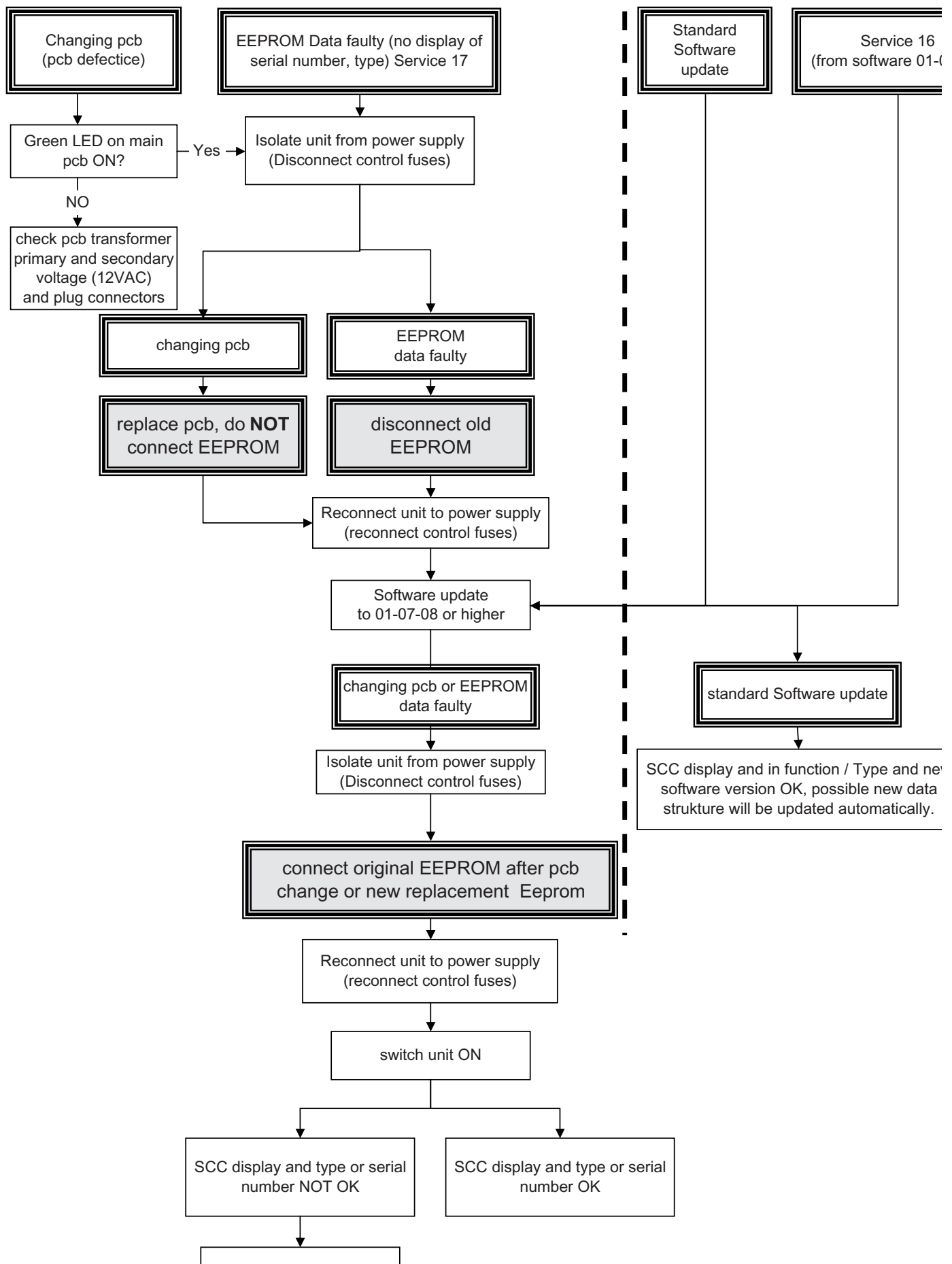
No function - safety chain



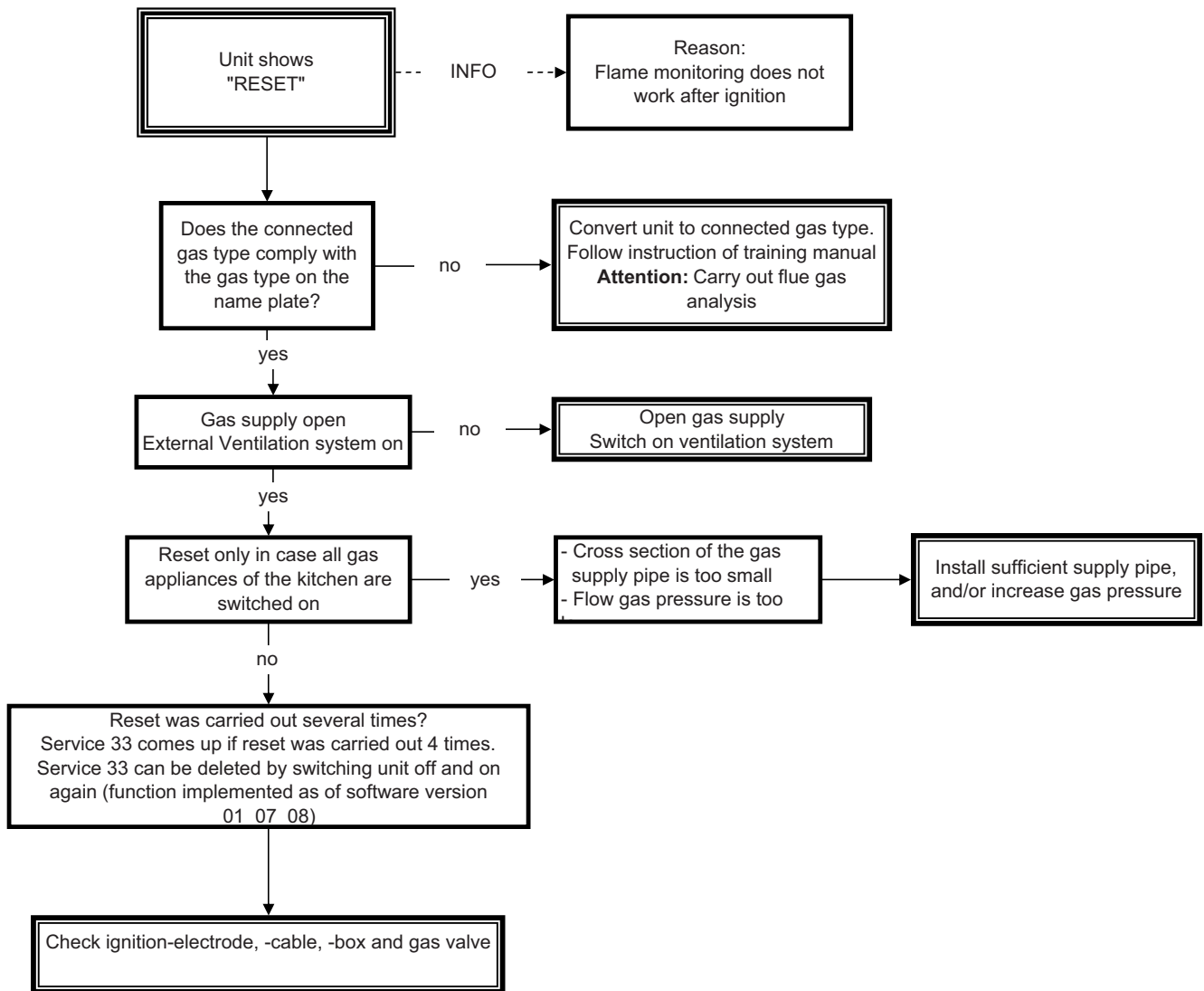
No or to low steam production



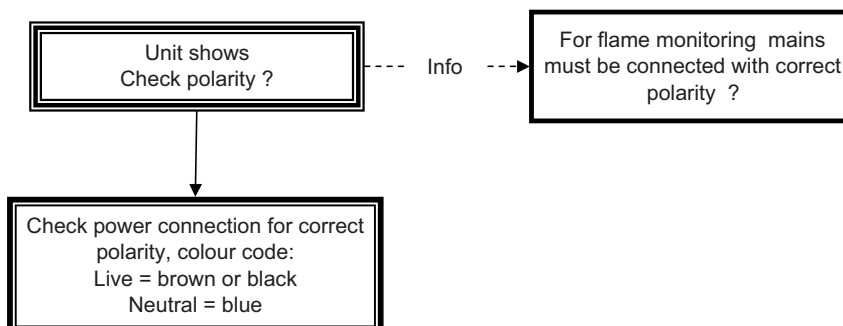
Changing SCC pcb / changing SCC EEPROM / Software update



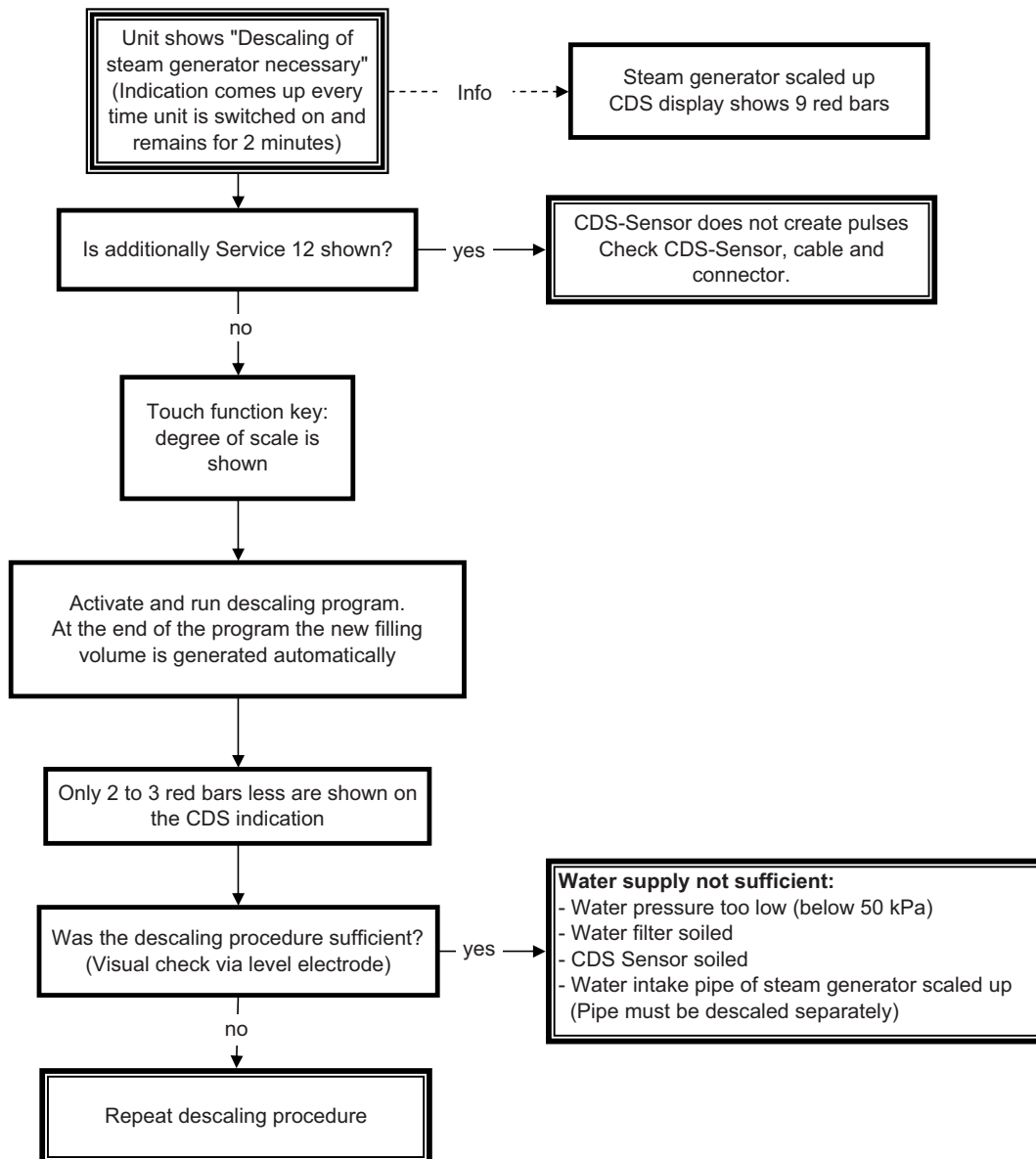
"RESET" indication (Gas units)



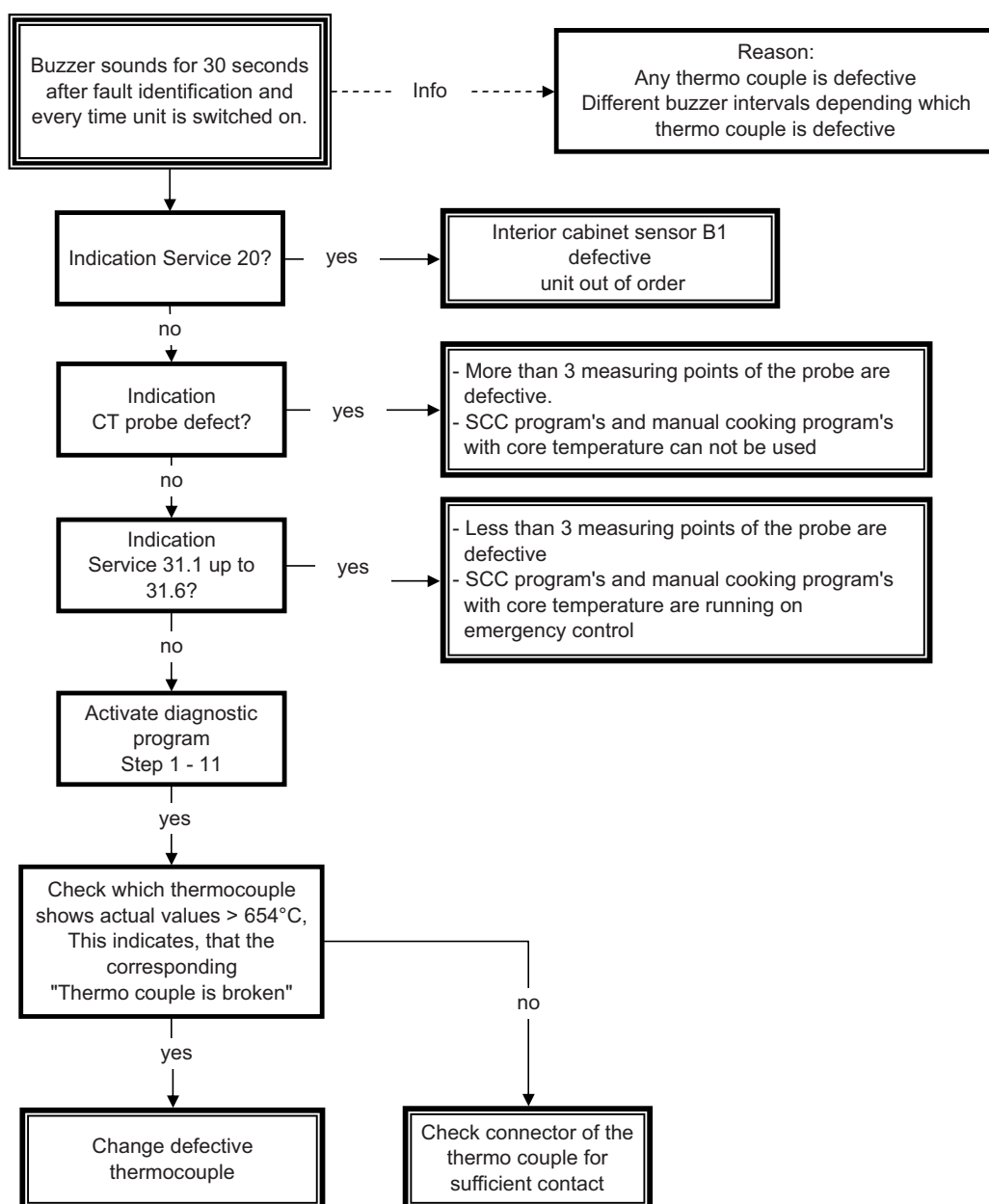
Check polarity



Indication descaling /Service 12



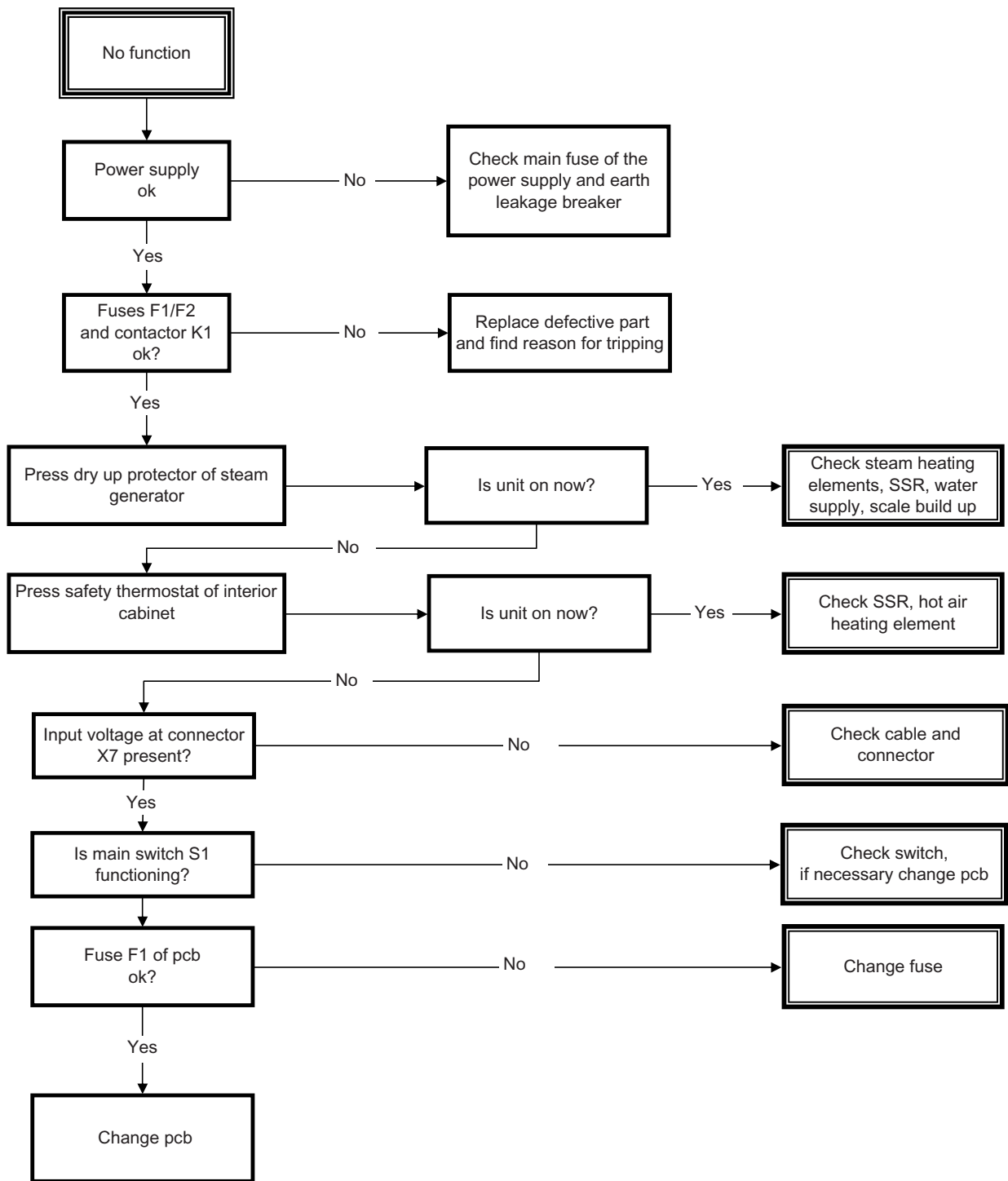
Buzzer sounds



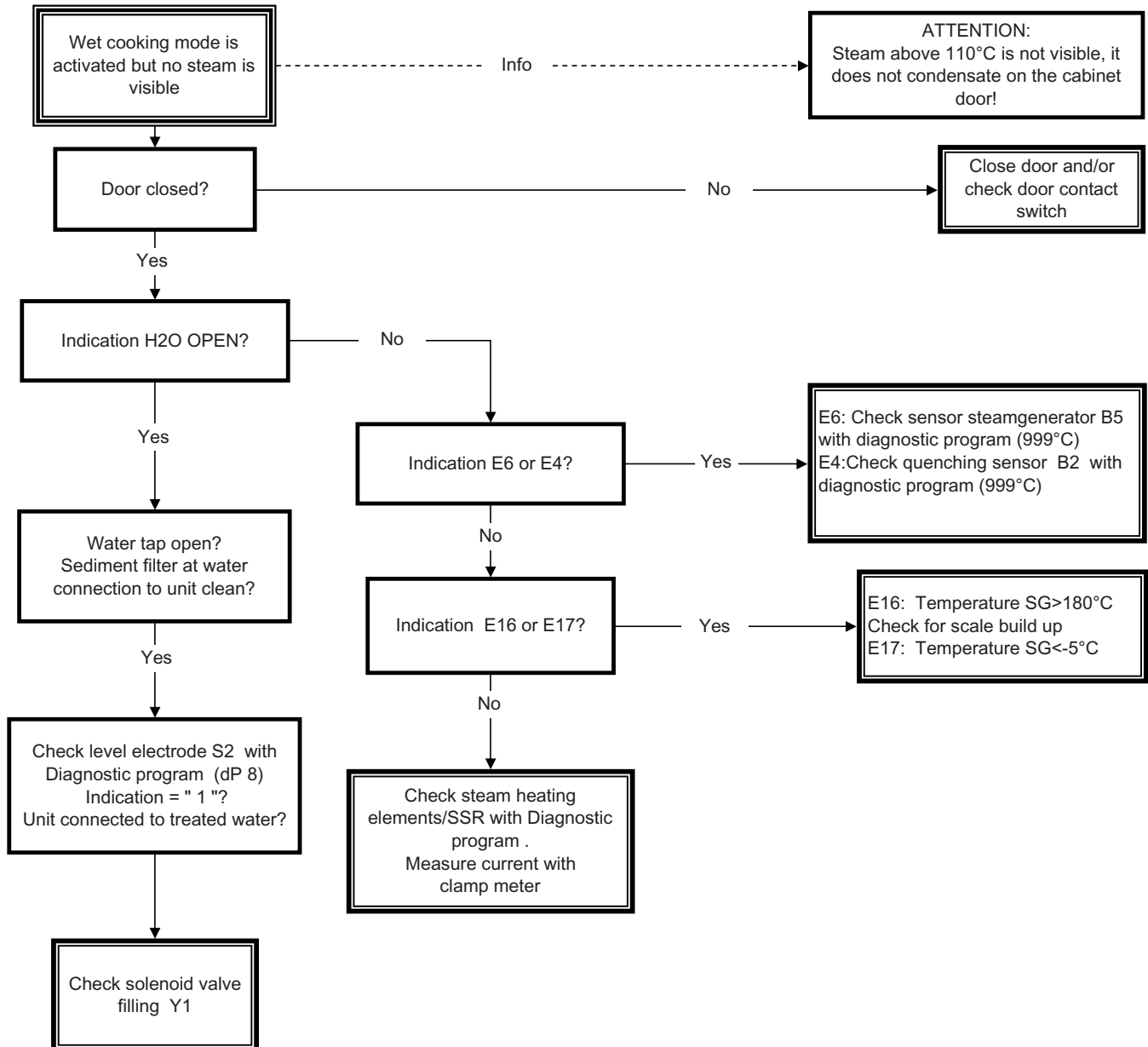
Intervall code of intermittent buzzer counted per 5 seconds (broken thermocouple)

B1	12x per 5 seconds
B2	6x per 5 seconds
B4	5x per 5 seconds
B5	8x per 5 seconds
Core Probe	20x per 5 seconds

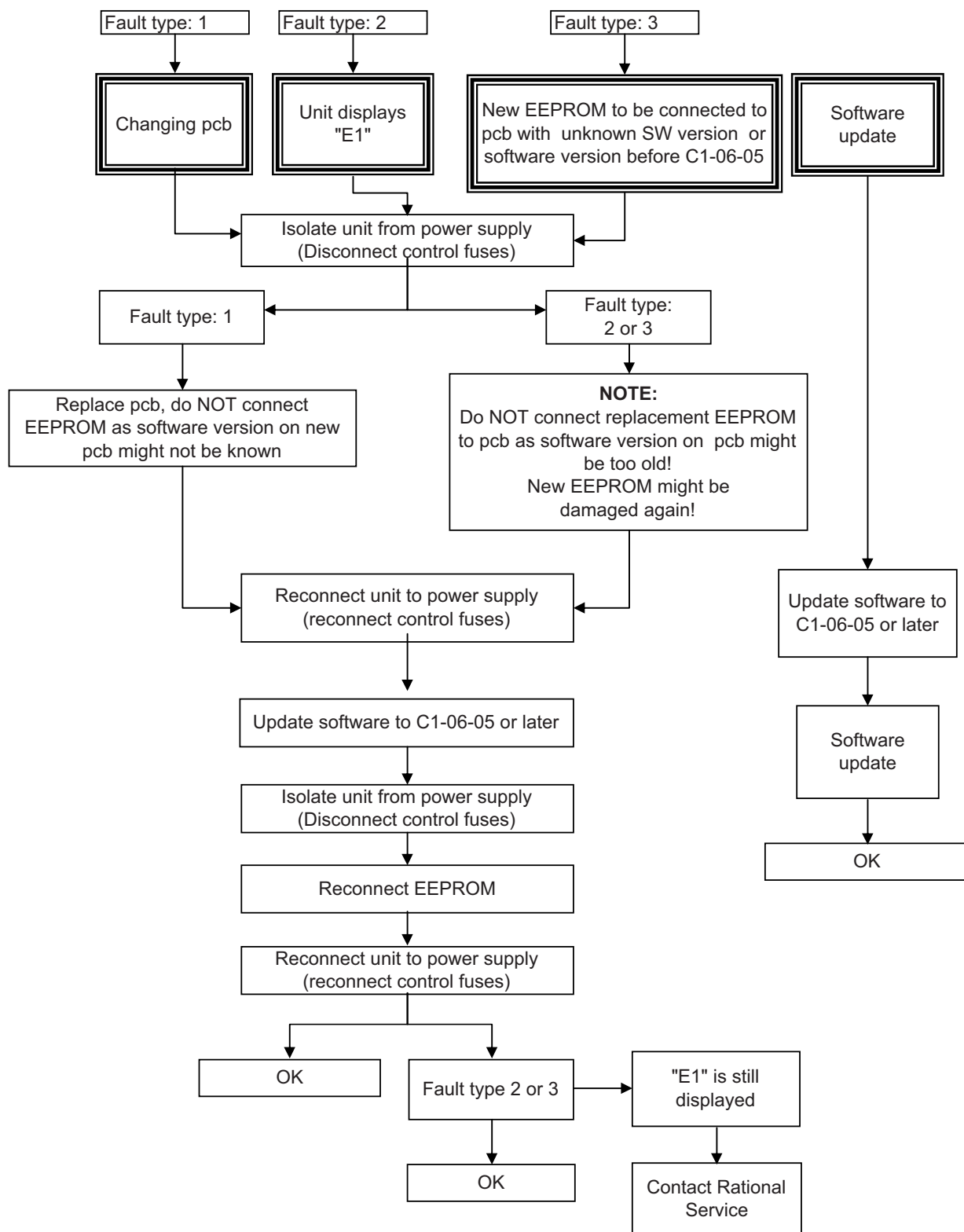
No function - safety circuit



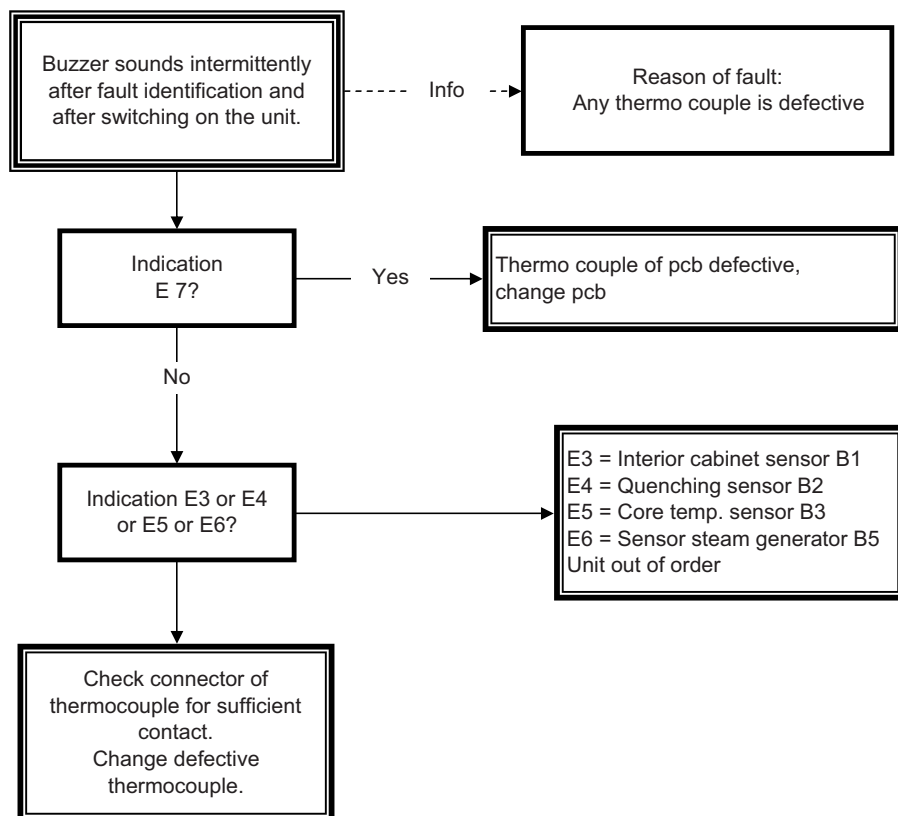
No steam



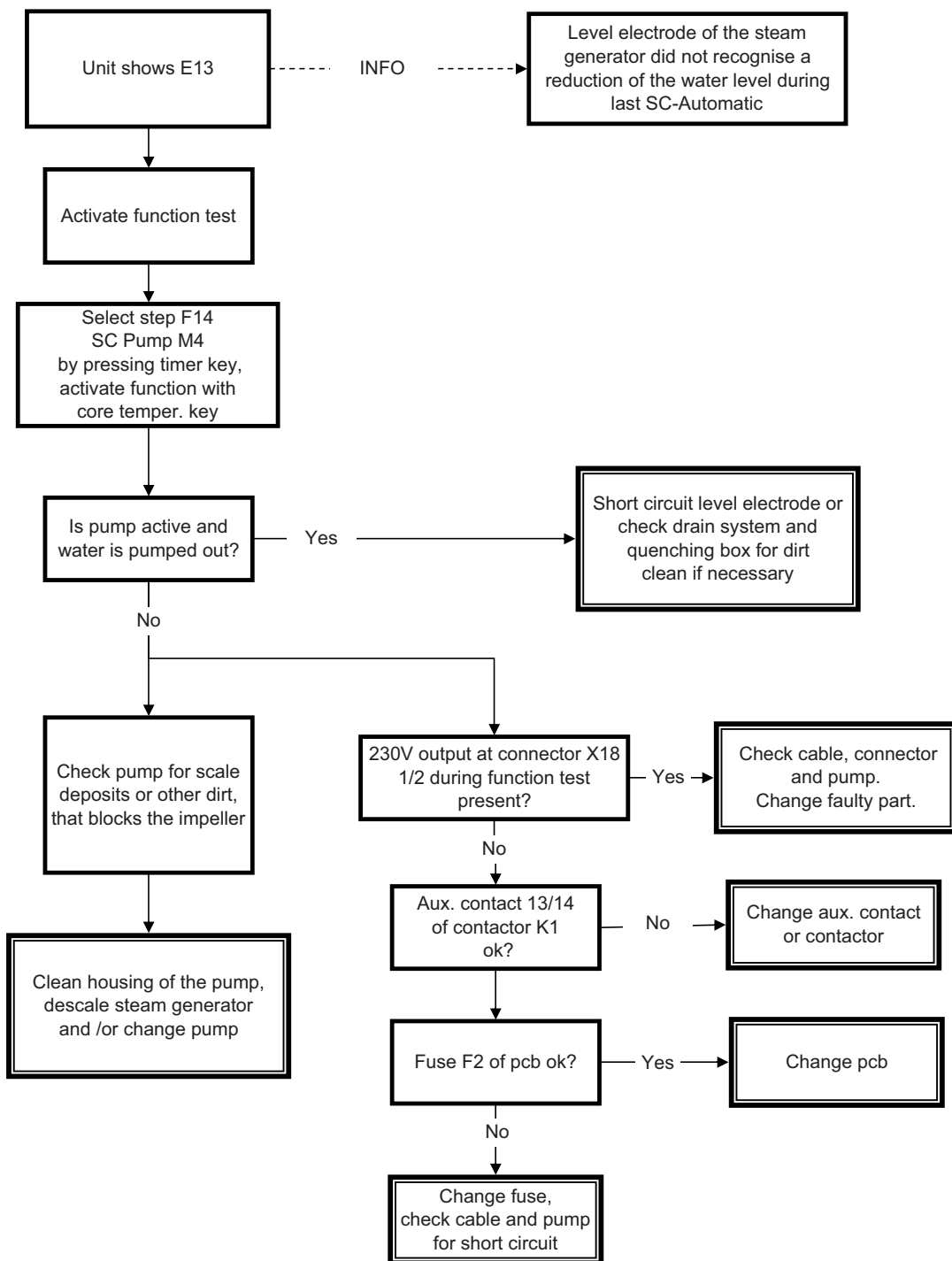
Fault tree: Changing pcb / changing EEPROM / Fault "E1"



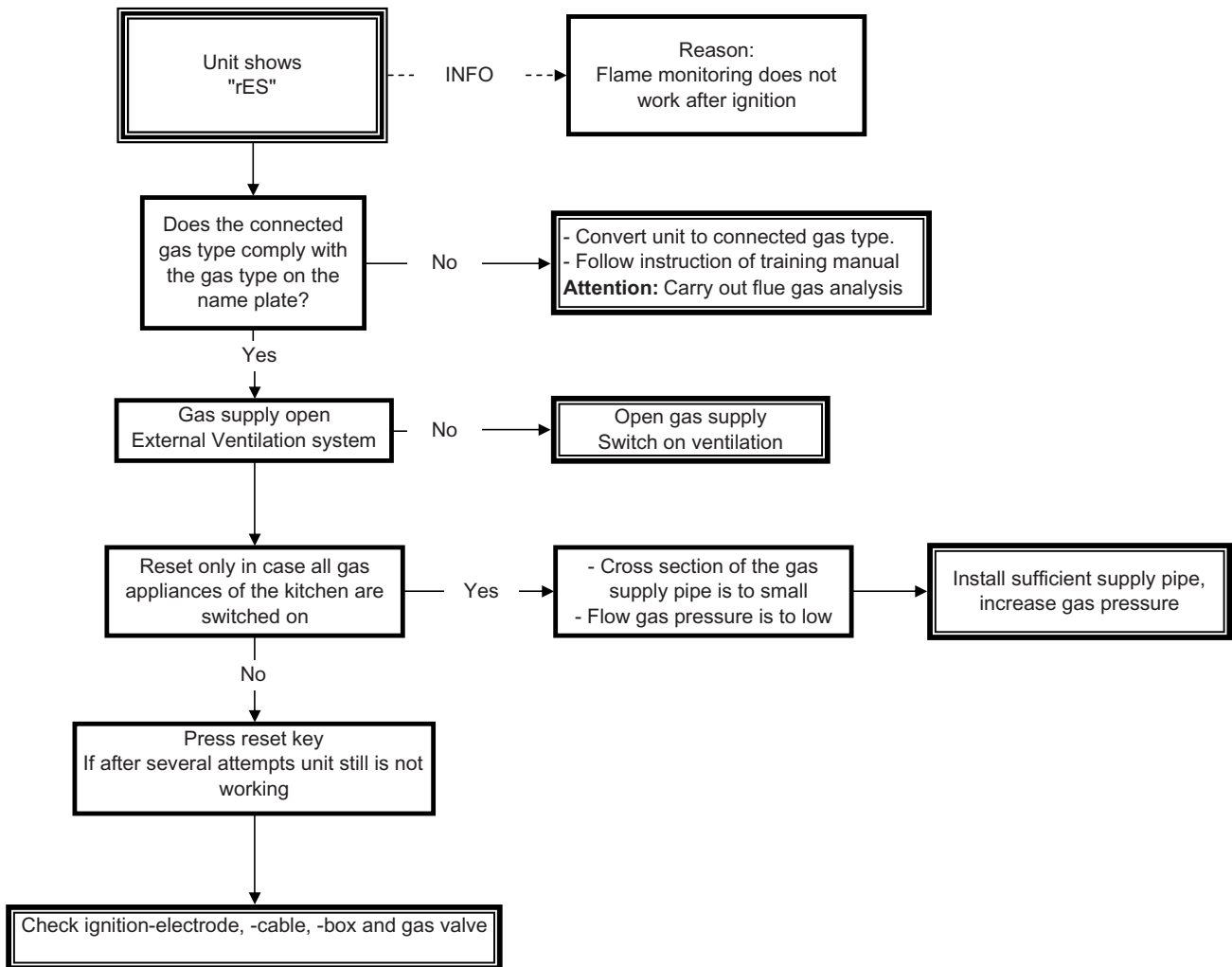
Buzzer sounds



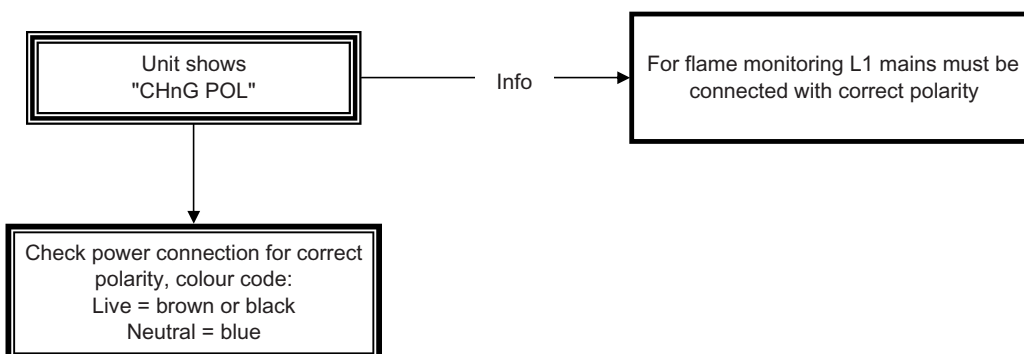
Indication "E13" (SC-automatic)



Indication "rES" (= reset)



CHnG POL (check polarity)



Notes:

COMMON

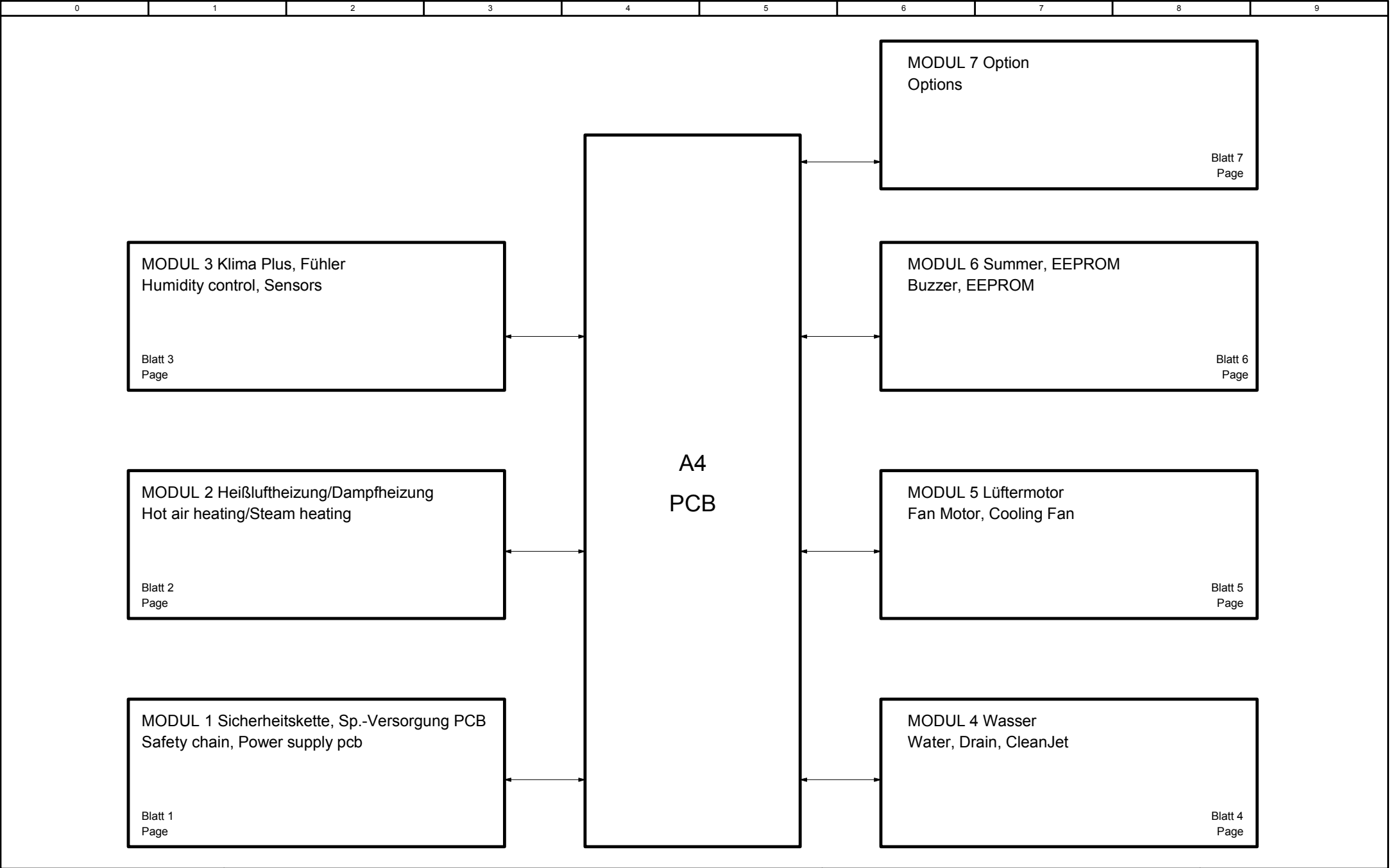
Notes:

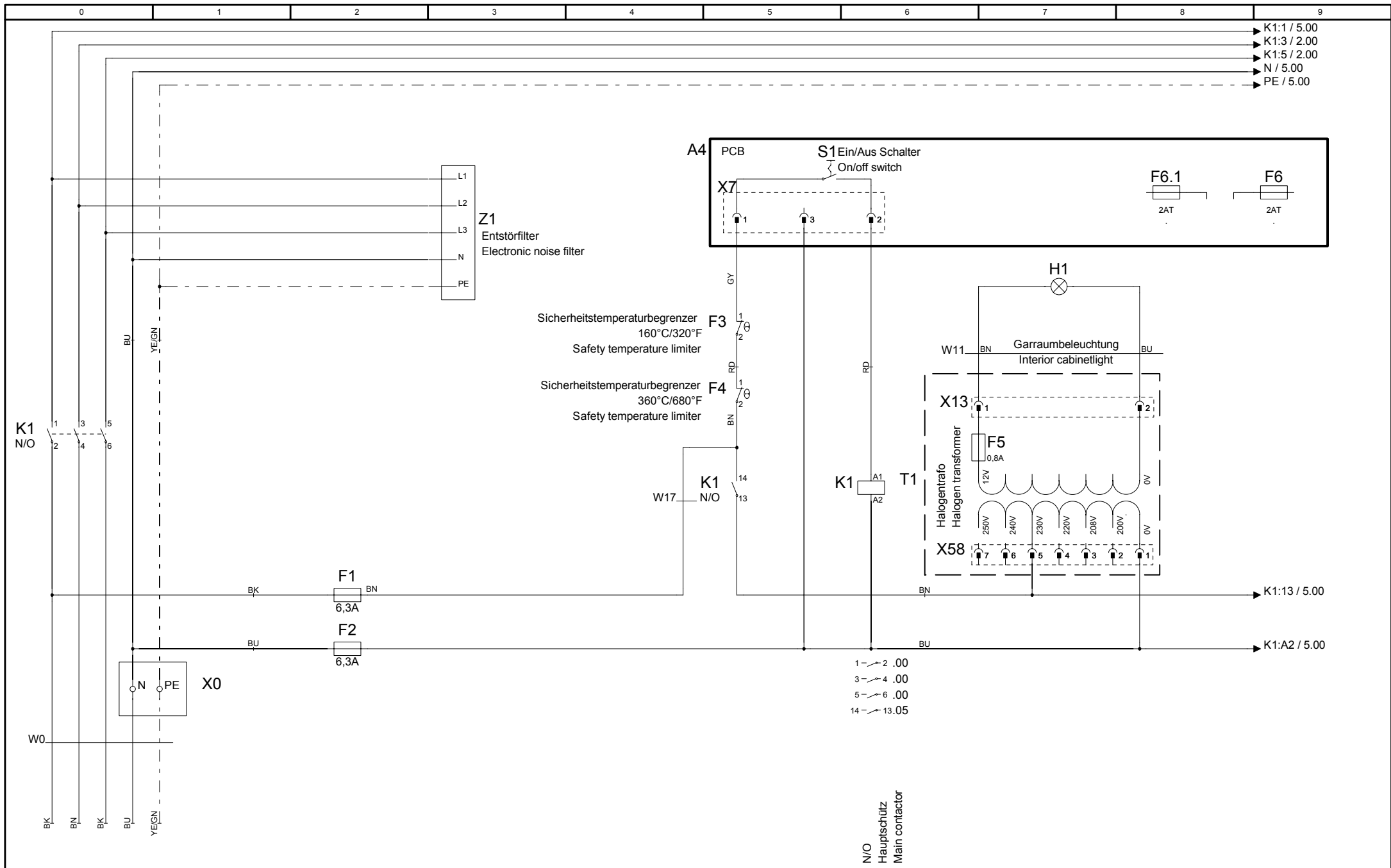
COMMON

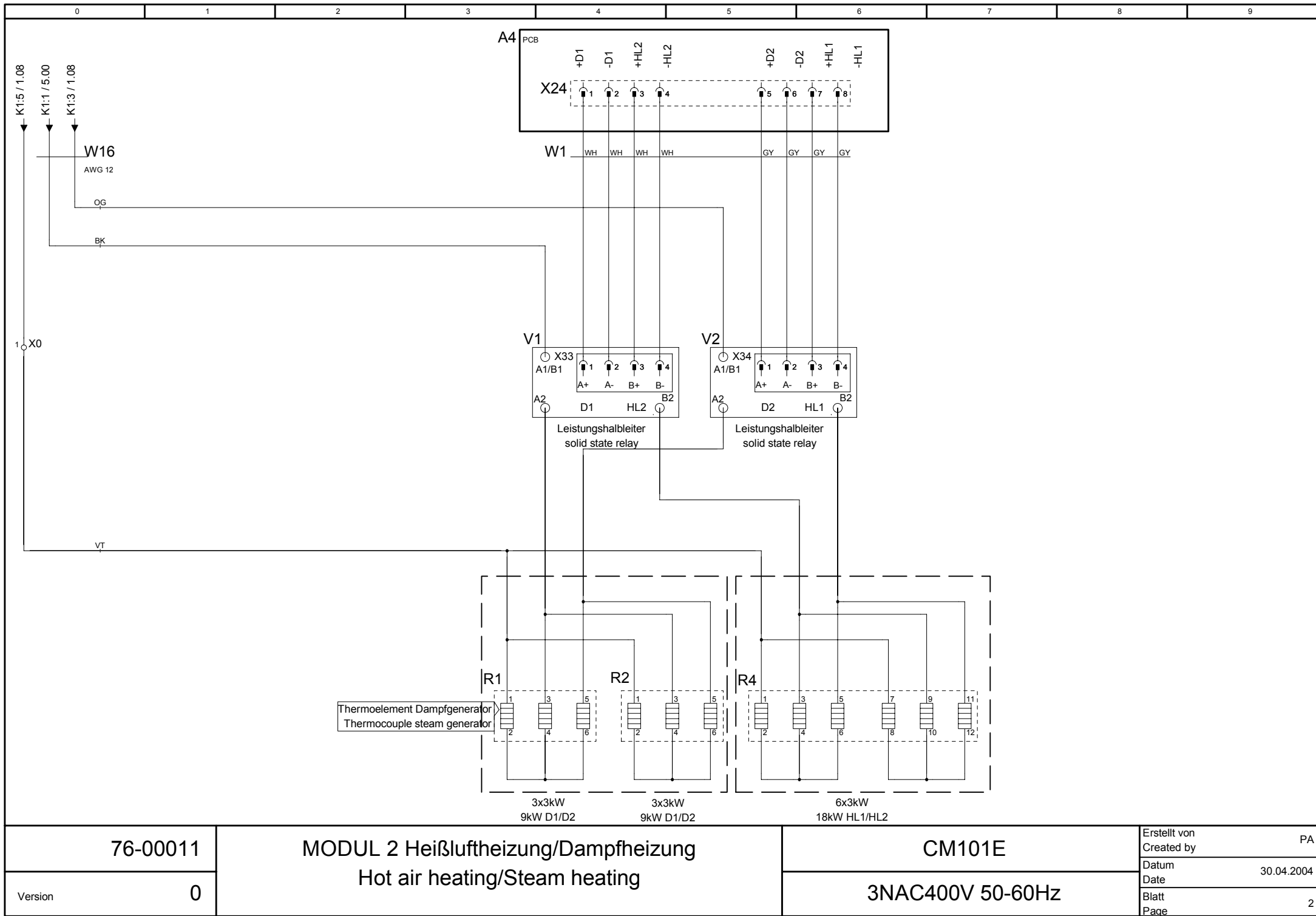
Deckblatt Elektrische Dokumentation, Cover sheet for electrical Documentation

Die Elektrische Dokumentation besteht aus: 1. diesem Deckblatt, 2. dem Schaltplan und 3. der Legende der elektrischen Bauteile
The electric documentation contains: 1. this cover sheet, 2. the wiring diagram and 3. the bill of electrical material (BOM)

Deckblatt-Nr. Front Page No.	75-20017	Version	0
Typ / Type	CM101E		
Schaltplan Wiring diagram Spannung (SPL) Voltage	76-00011 3NAC400V 50-60Hz	Version	0
Legende Legend electr. components	78-00022	Version	0
Geräteserialnr. Serial number	E11ME0401	Version	0401
Erstellt am Created at	04.05.2004 19:39:45	Ersteller Creator	SCHD
Gültig ab Valid from	04.05.2004		







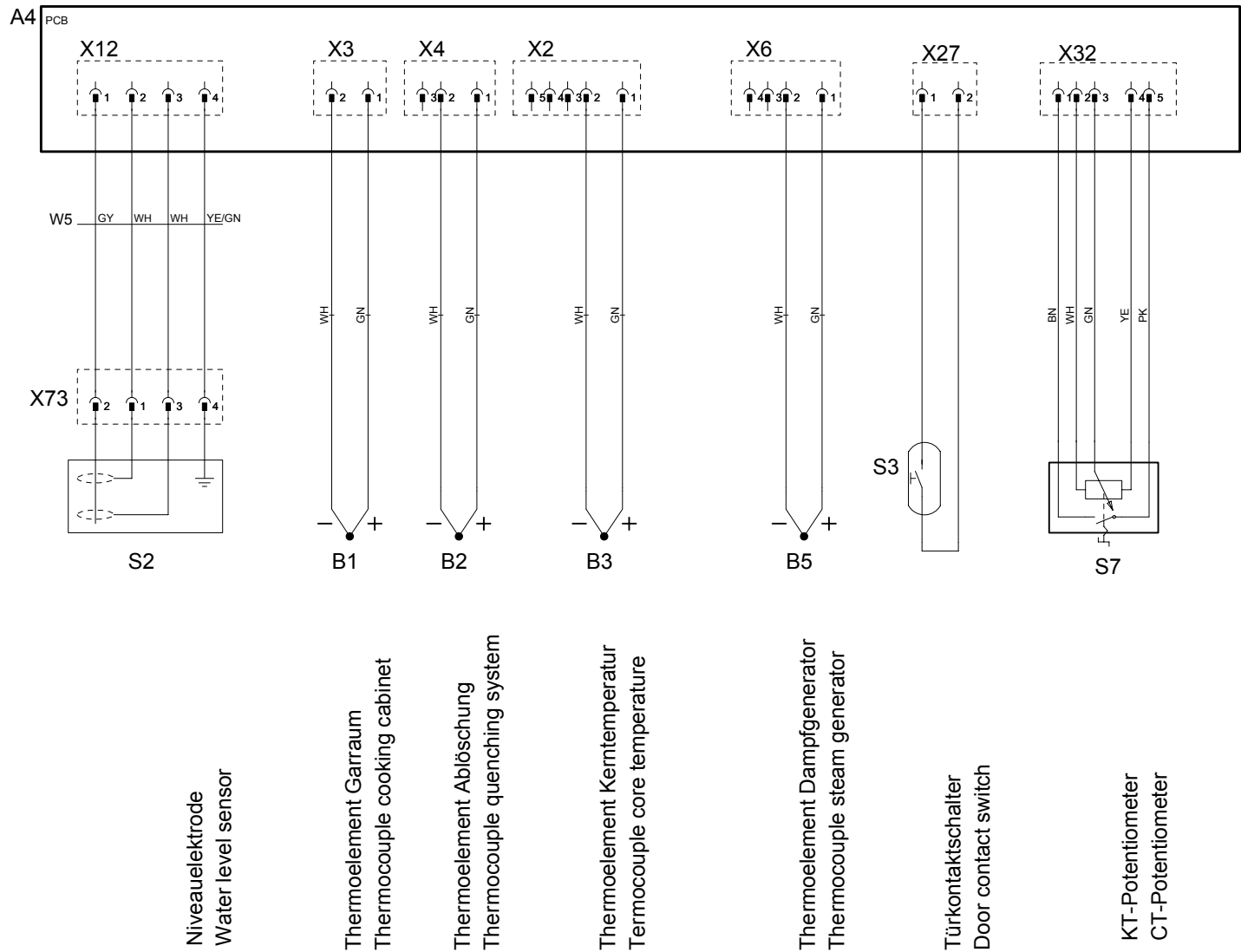
76-00011

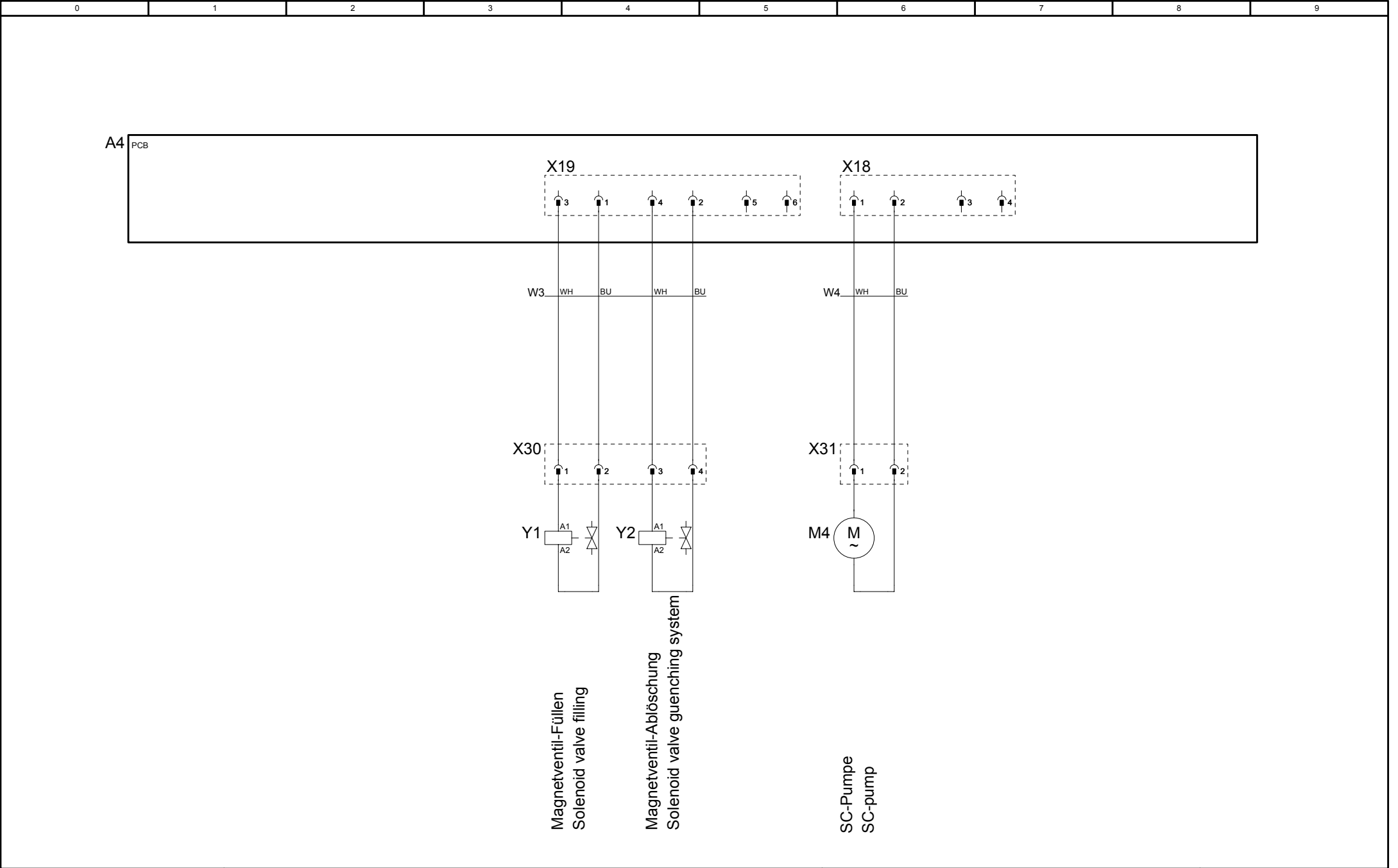
MODUL 2 Heißluftheizung/Dampfheizung
Hot air heating/Steam heating

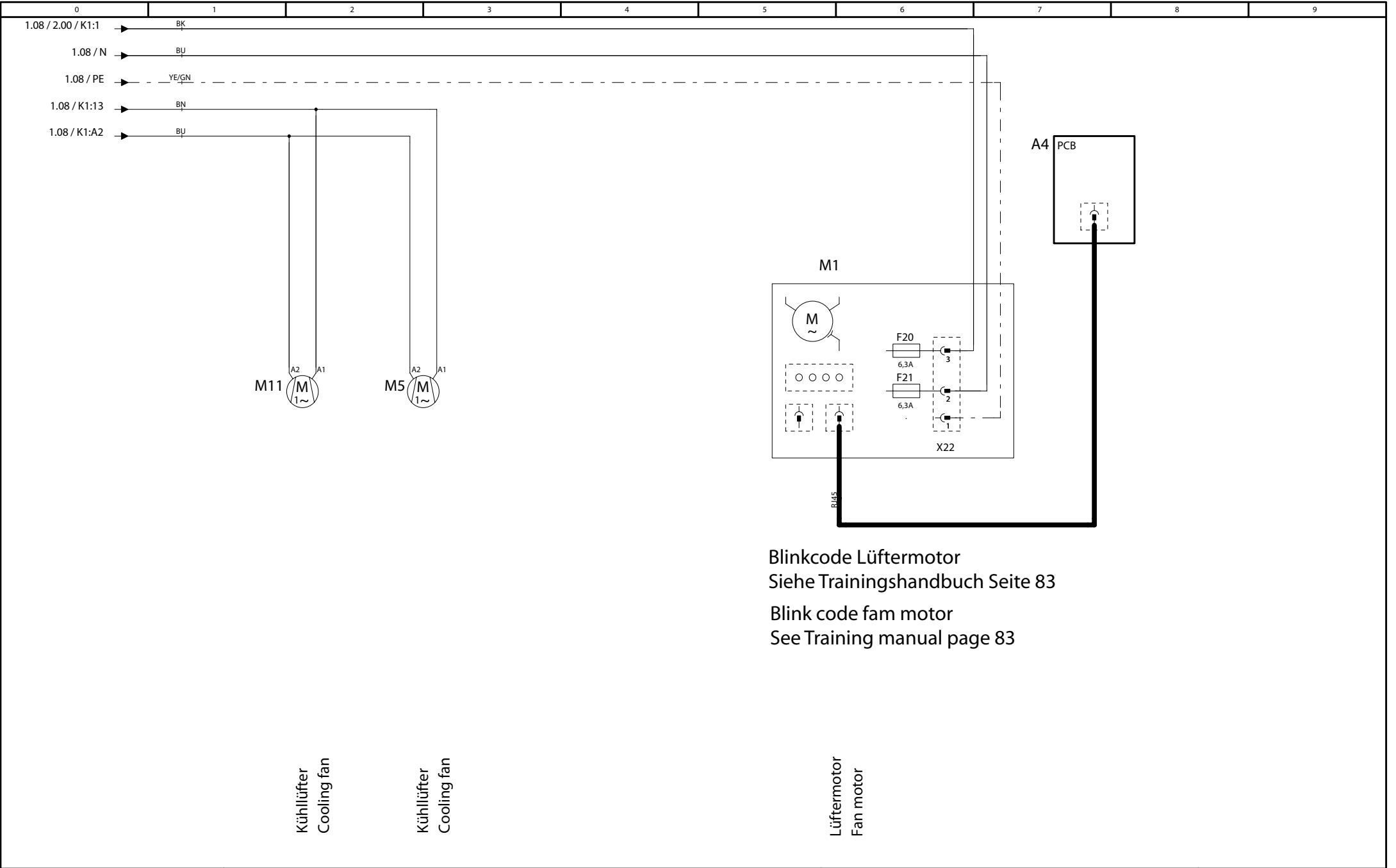
CM101E

3NAC400V 50-60Hz

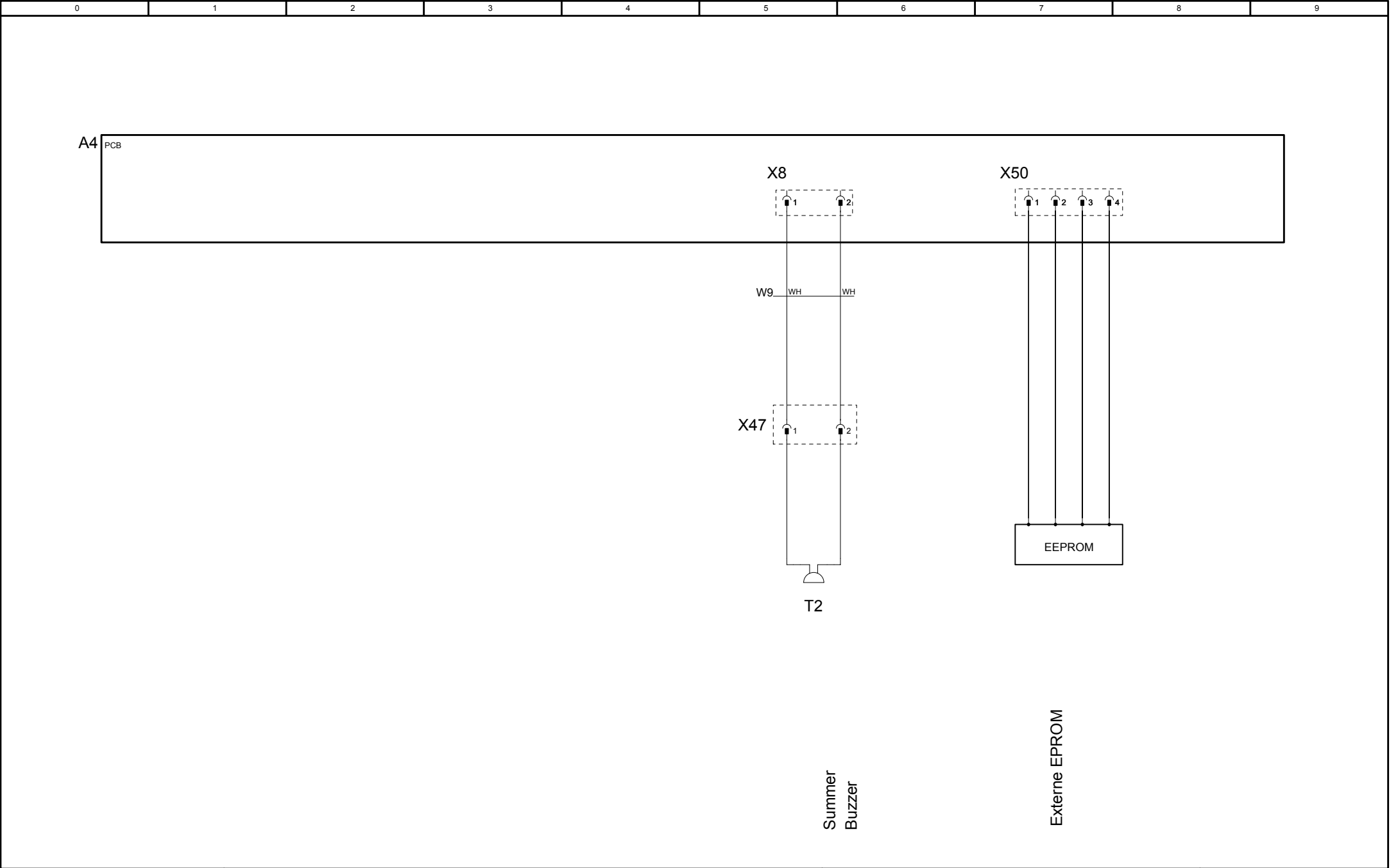
Erstellt von	PA
Created by	
Datum	30.04.2004
Date	
Blatt	2
Page	



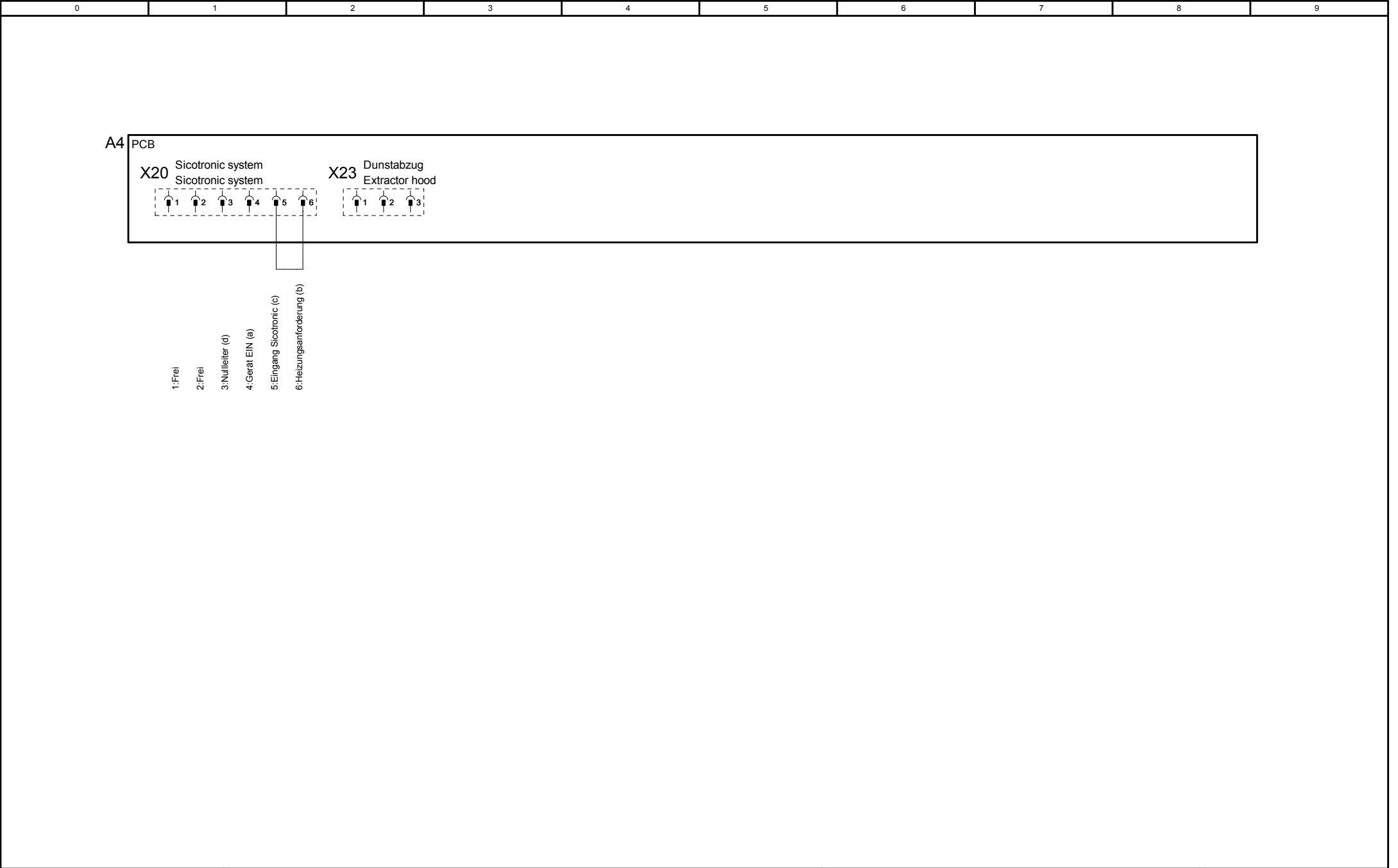




76-00011	MODUL 5 Lüftermotor Fan Motor, Cooling Fan	CM101E	Erstellt von Created by	PA
Version0		3NAC400V 50-60Hz	Datum Date	30.04.2004
			Blatt Page	5



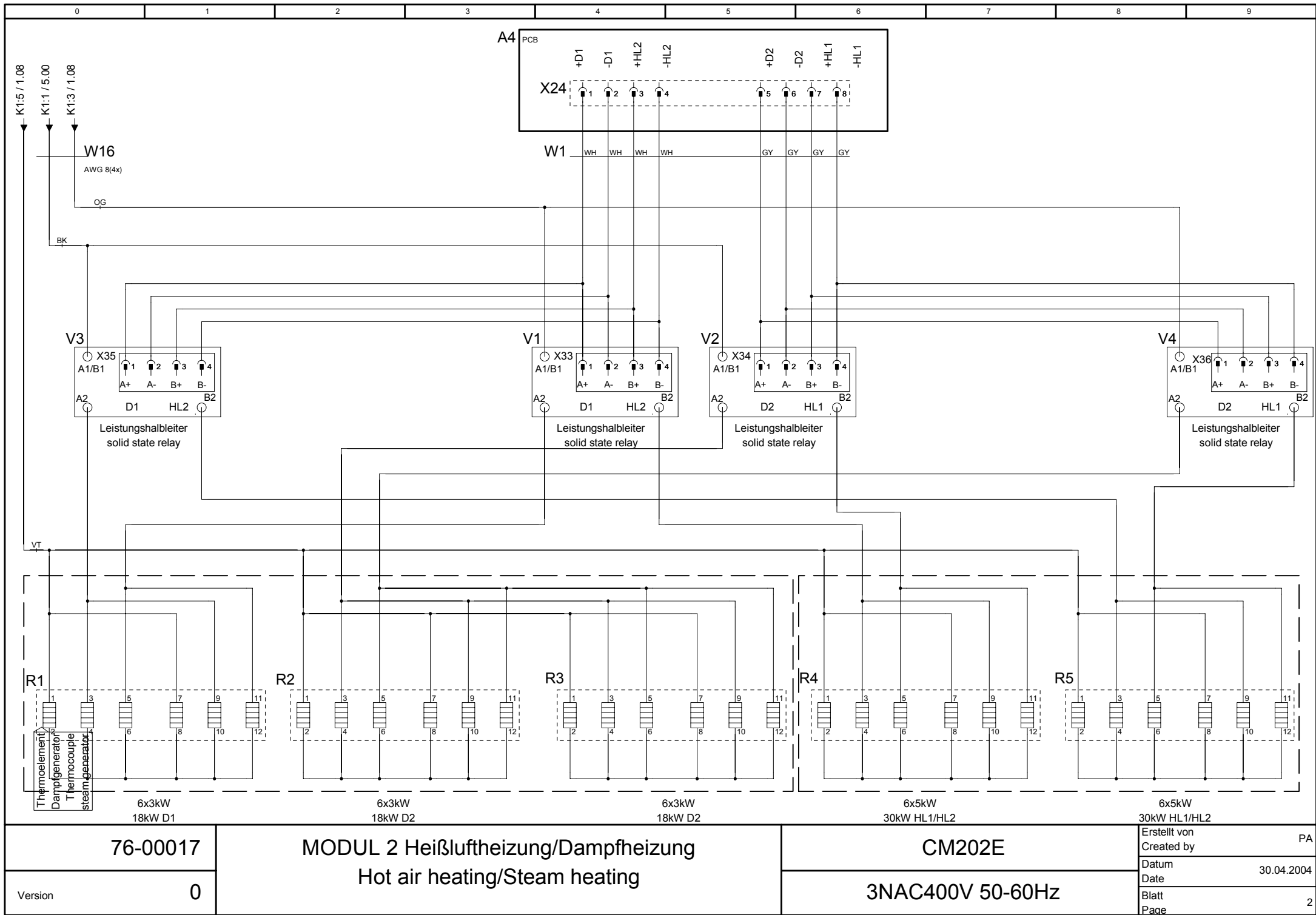
76-00011		MODUL 6 Summer, EEPROM Buzzer, EEPROM	CM101E		Erstellt von Created by		PA
Version 0			3NAC400V 50-60Hz		Datum Date		30.04.2004
					Blatt Page		6

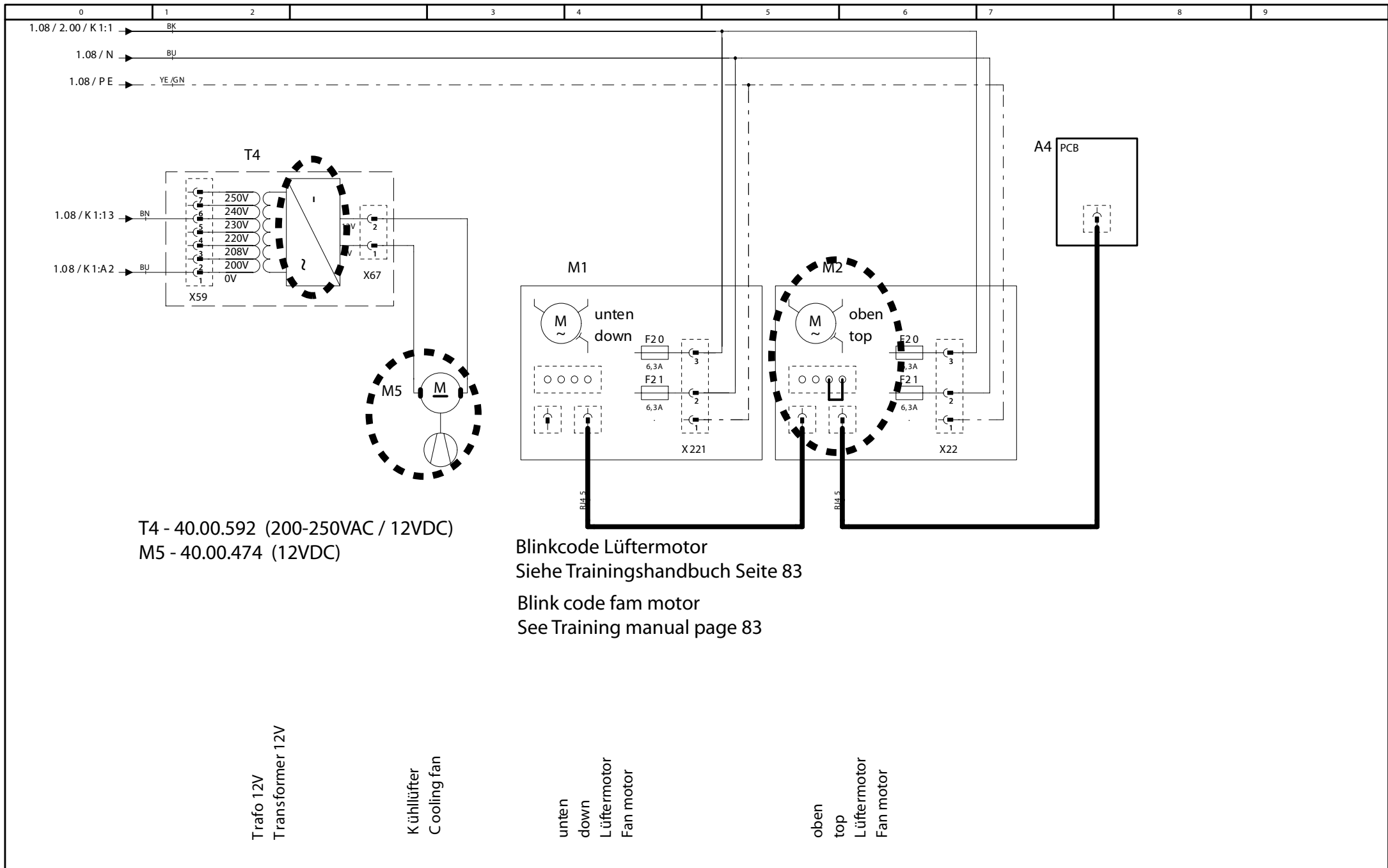


Positionsliste
Bill of material

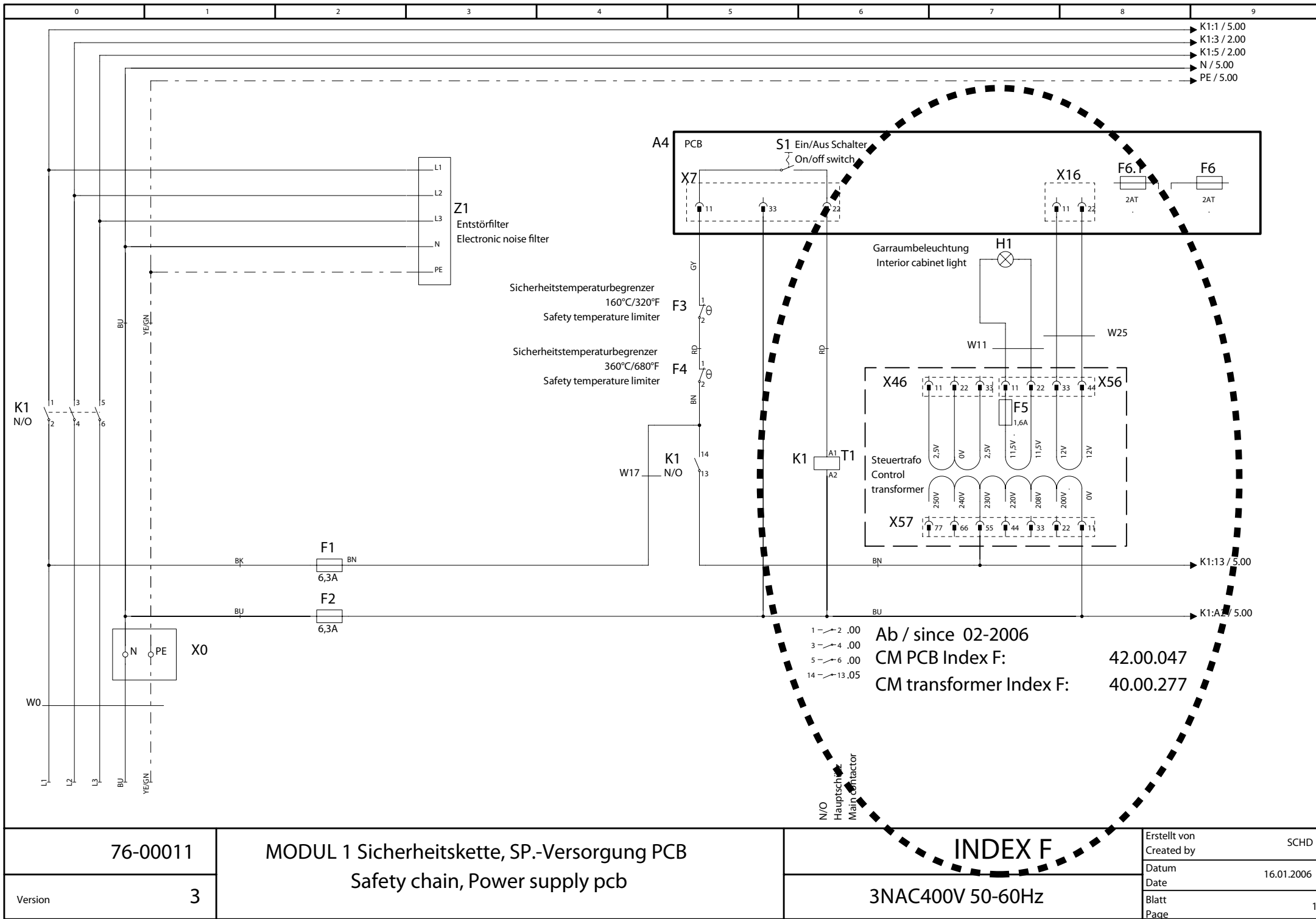
Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
A4	42.00.004	Bedienplatine CM	Operator PCB CM	Modul 8
B1	40.00.395	Thermoelement Garraum	Thermocouple interior cabinet	Modul 3
B2	40.00.287	Thermoelement Ablöschung	Thermocouple quenching system	Modul 3
B3	40.01.603	Thermoelement Kerntemperatur CM	Thermocouple core temperature	Modul 3
B5	40.00.291	Thermoelement Dampfgenerator	Thermocouple steam generator	Modul 3
F1	4001.0224	Steuersicherung	Control fuse	Modul 1
F2	4001.0224	Steuersicherung	Control fuse	Modul 1
F3	40.01.329	Sicherheitstemp. Begrenzer G135°C/275°F E160°C/320°F	Safety temp. limiter G135°C/275°F E160°C/320°F	Modul 1
F4	40.00.605	Sicherheitstemperaturbegrenzer 360°C/680°F	Safety temperature limiter 360°C/680°F	Modul 1
H1	3024.0201	Halogenbeleuchtung alle	Interior cabinet light	Modul 6
K1	40.01.555	Hauptschütz	Main contactor	Modul 1
M1	40.00.274	Lüftermotor TG u. SG	Fan motor	Modul 5
M11	3101.1008	Kühl Lüfter 101/102E u. 202/E J/UL	Cooling fan 101/102E and 202/E J/UL only	Modul 5
M4	44.00.207	SC-Pumpe	SC-pump	Modul 4
M5	3101.1008	Kühl Lüfter 61-202E/G	Cooling fan	Modul 5
R1	44.00.194	Dampfheizkörper 61-202	Heating element steam 61-202	Modul 2
R2	44.00.534	Dampfheizkörper 61-202	Heating element steam 61-202	Modul 2
R4	40.00.265	Heißluftheizkörper 61-202	Heating element hot air 61-202	Modul 2
S2	3002.0402	Niveauelektrode	Water level electrode	Modul 3
S3	40.00.454	Türkontaktschalter	Door contact switch	Modul 3
S7	40.00.464	Potentiometer Zeit / Kerntemperatur	Time / Core potentiometer	
T1	40.00.278	Trafo	Transformer	Modul 1
T2	3006.0107	Alarmsummer	Buzzer	Modul 6
V1	40.01.589	Leistungshalbleiter 61-202/E	Solid state relay	Modul 2
V2	40.01.589	Leistungshalbleiter 61-202/E	Solid state relay	Modul 2
X20	40.00.338	Sicotronic-Klemme	Sicotronic system	Modul 7
Y1	50.00.316	Magnetventil Füllen / SCC (Y3) Beschwaden	Solenoid valve filling / SCC (Y3) moistening	Modul 4
Y2	50.00.139	Magnetventil Ablöschung	Solenoid valve quenching system	Modul 4
Z1	40.00.465	Entstörfilter	Electronic noise filter	Modul 1
W0	8801.0136	Anschlusskabel	Power connection cable	Modul 1
W1	40.00.201	Kabel-Ansteuerung I/O PCB - SSR	Cable I/O PCB - SSR	Modul 2
W11	40.00.222	Kabel: Halogenbeleuchtung	Cable Halogen light	
W16	40.00.232	Kabel: Hauptschütz - SSR	Cable Main contactor - SSR	Modul 2
W17	40.00.217	Kabel: Steuerstamm	Cable Control Supply	Modul 1
W3	40.00.236	Kabel: Platine - Magnetventile	Cable pcb - solenoid valve	Modul 4
W4	40.00.219	Kabel: Platine - SC-Pumpe	Cable pcb - SC-pump	Modul 4
W5	40.00.205	Kabel: Niveauelektrode	Cable water level sensor	Modul 3
W9	40.00.212	Kabel: Alarmsummer	Cable Buzzer	Modul 6

Änderungsdatum	2004-04-02 11:36:57	Name	CM101E	Dokument-Nr.	78-00022
Erzeuger	SCHD	Spannung	3NAC 400/415V 50-60Hz	Version	0





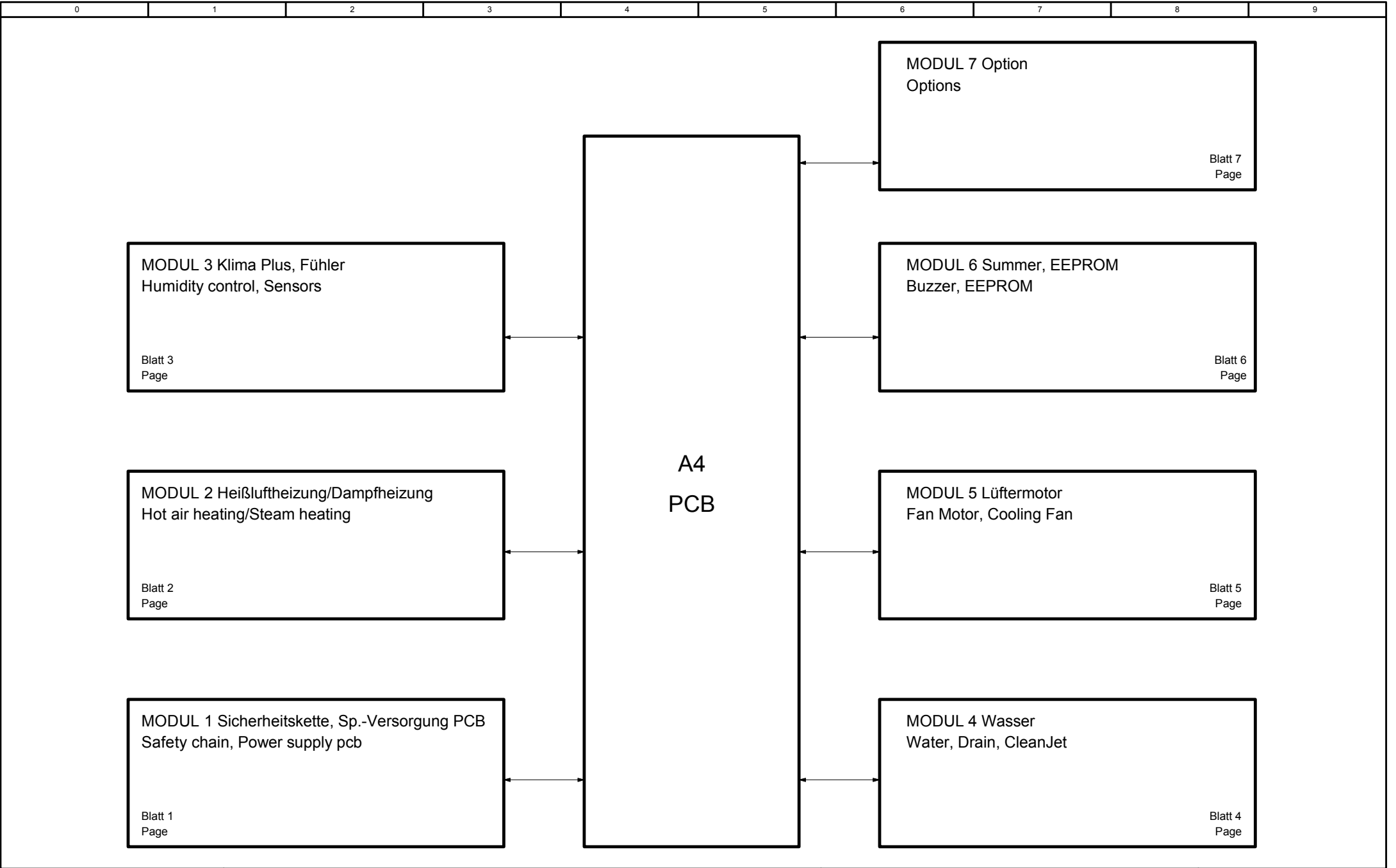
76-00017	MODUL 5 Lüfter motor Fan Motor, C ooling Fan	C M202E	Erstellt von Created by PA
Version 0		3NAC 400V 50- 60H z	Datum Date 30.04. 2004 Blatt Page 5

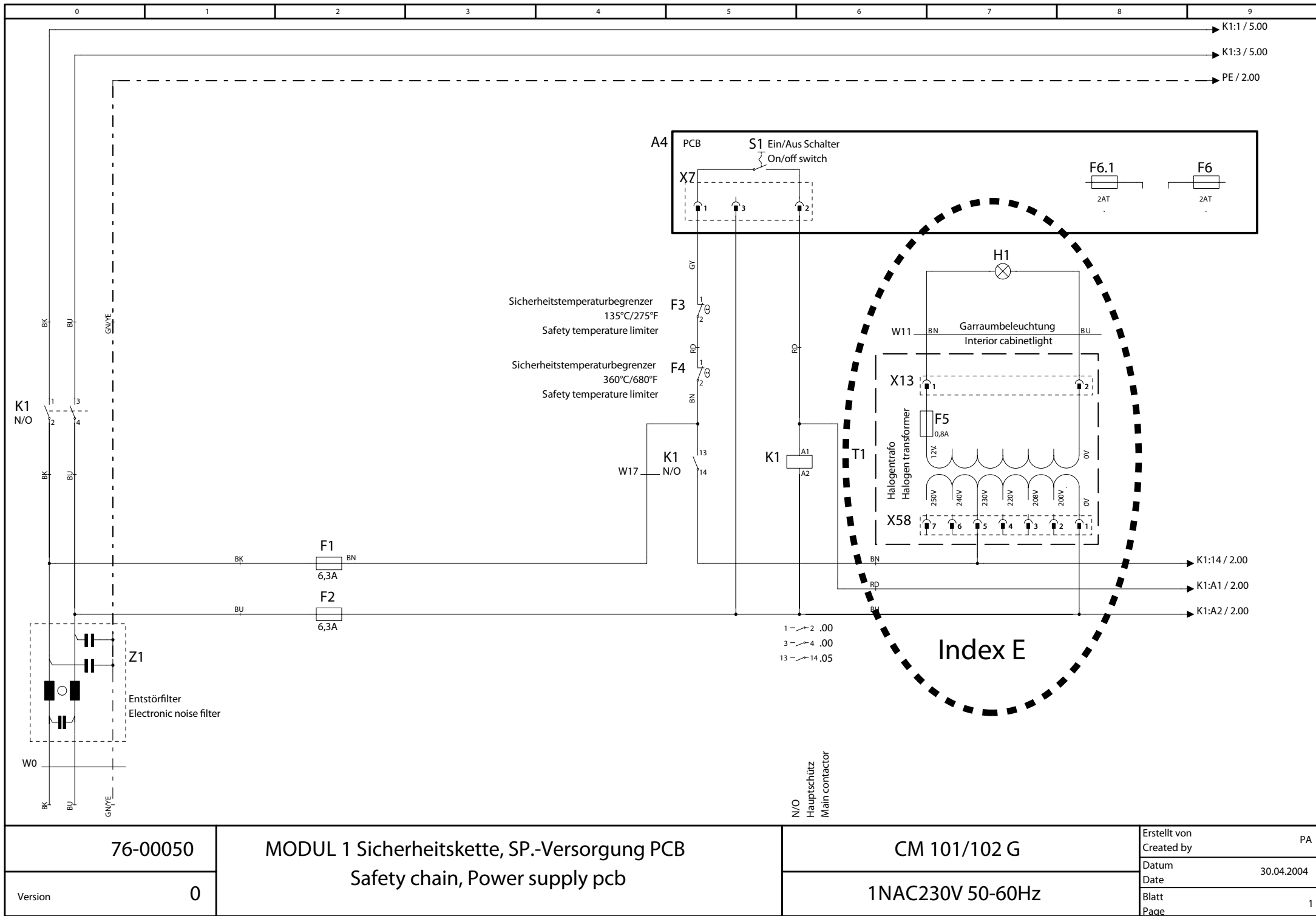


Deckblatt Elektrische Dokumentation, Cover sheet for electrical Documentation

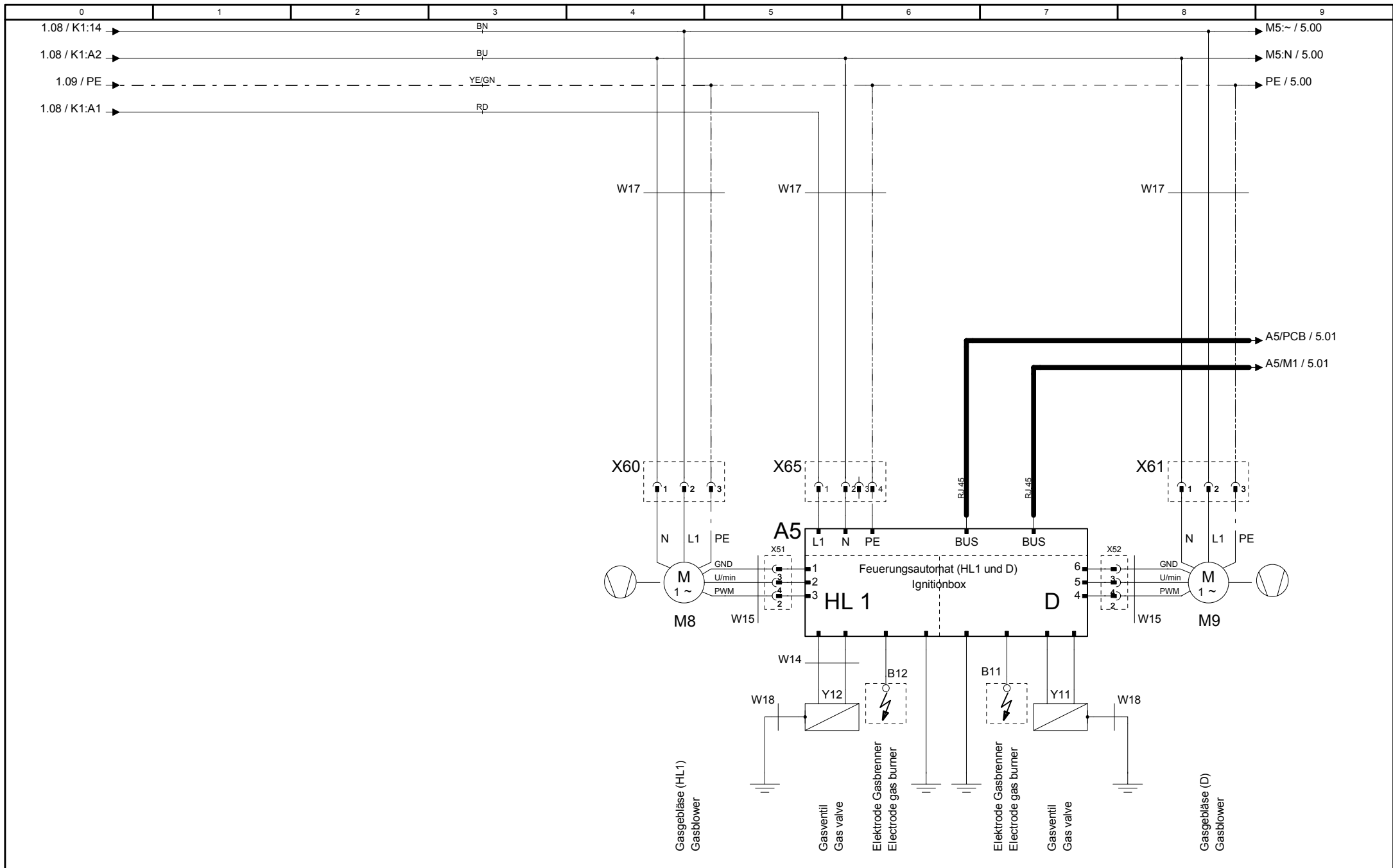
Die Elektrische Dokumentation besteht aus: 1. diesem Deckblatt, 2. dem Schaltplan und 3. der Legende der elektrischen Bauteile
The electric documentation contains: 1. this cover sheet, 2. the wiring diagram and 3. the bill of electrical material (BOM)

Deckblatt-Nr. Front Page No.	75-20067	Version	0
Typ / Type	CM101G		
Schaltplan Wiring diagram Spannung (SPL) Voltage	76-00050 1NAC230V 50-60Hz	Version	0
Legende Legend electr. components	78-00036	Version	0
Geräteserialnr. Serial number	G11ME0401	Version	0401
Erstellt am Created at	05.05.2004 09:02:51	Ersteller Creator	SCHD
Gültig ab Valid from	05.05.2004		





76-00050	MODUL 1 Sicherheitskette, SP.-Versorgung PCB Safety chain, Power supply pcb	CM 101/102 G	Erstellt von Created by	PA
Version 0		1NAC230V 50-60Hz	Datum Date	30.04.2004
			Blatt Page	1



76-00050

MODUL 2 Heißluftheizung/Dampfheizung
Hot air heating/Steam heating

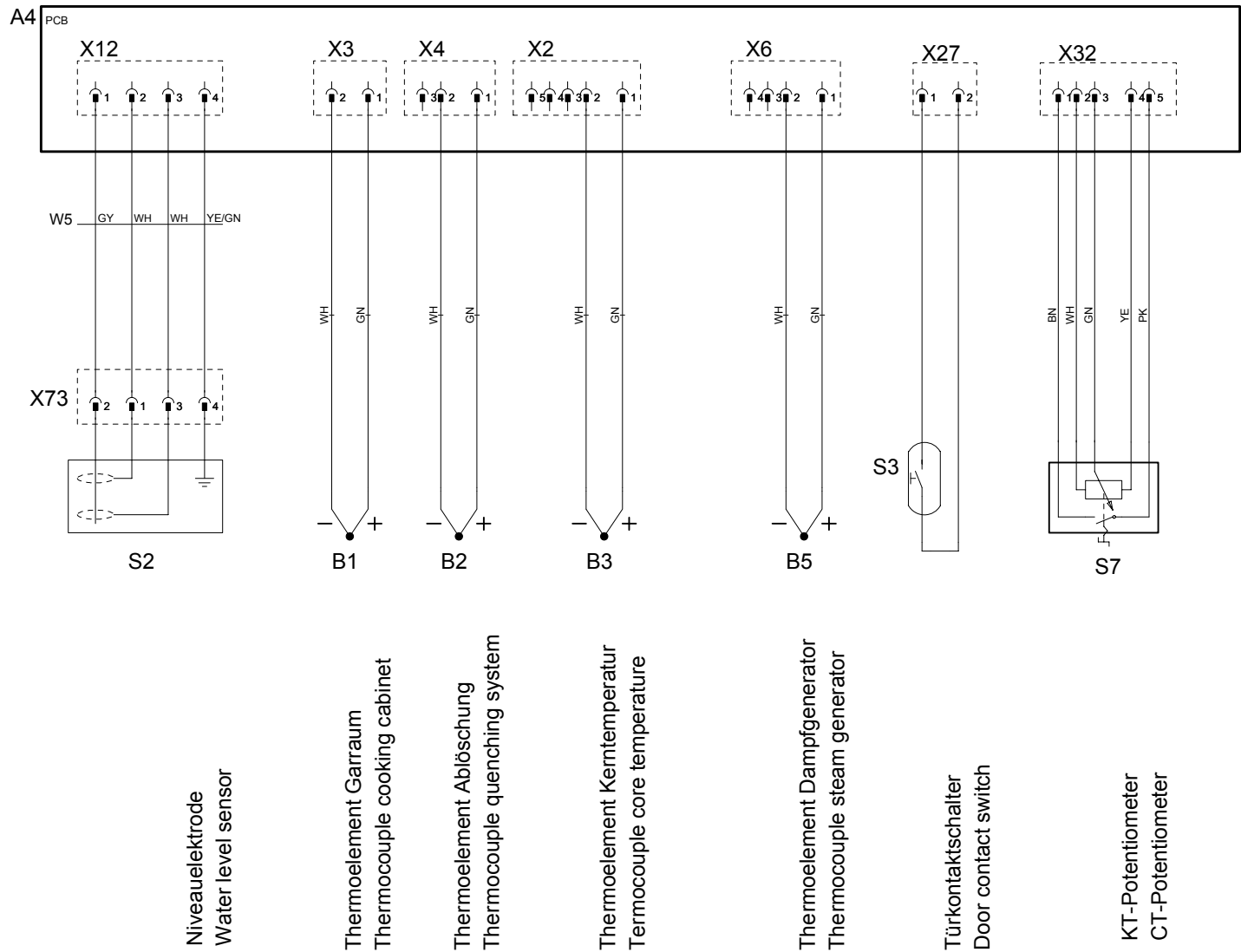
CM 101/102 G

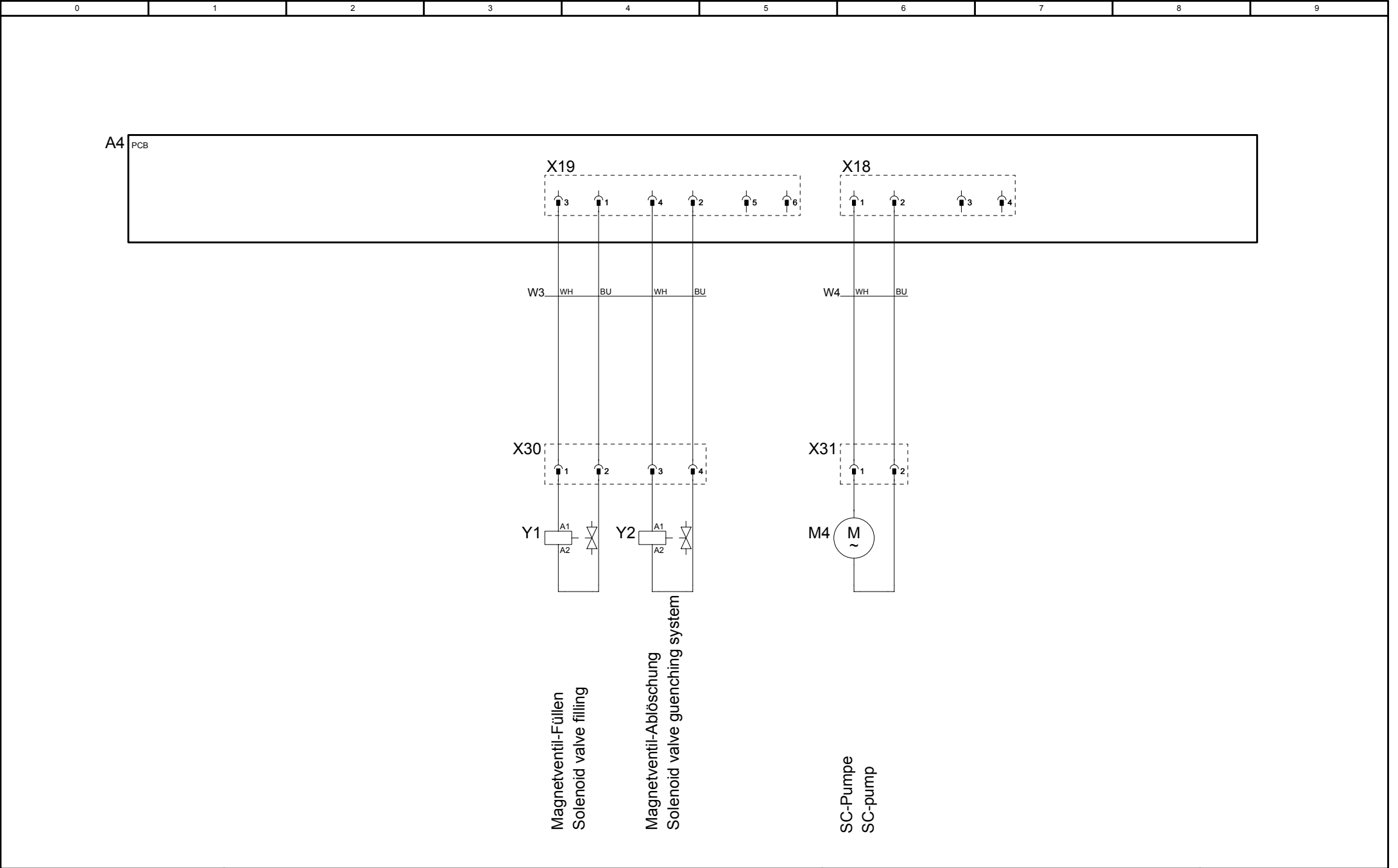
1NAC230V 50-60Hz

Erstellt von	PA
Created by	
Datum	30.04.2004
Date	
Blatt	2
Page	

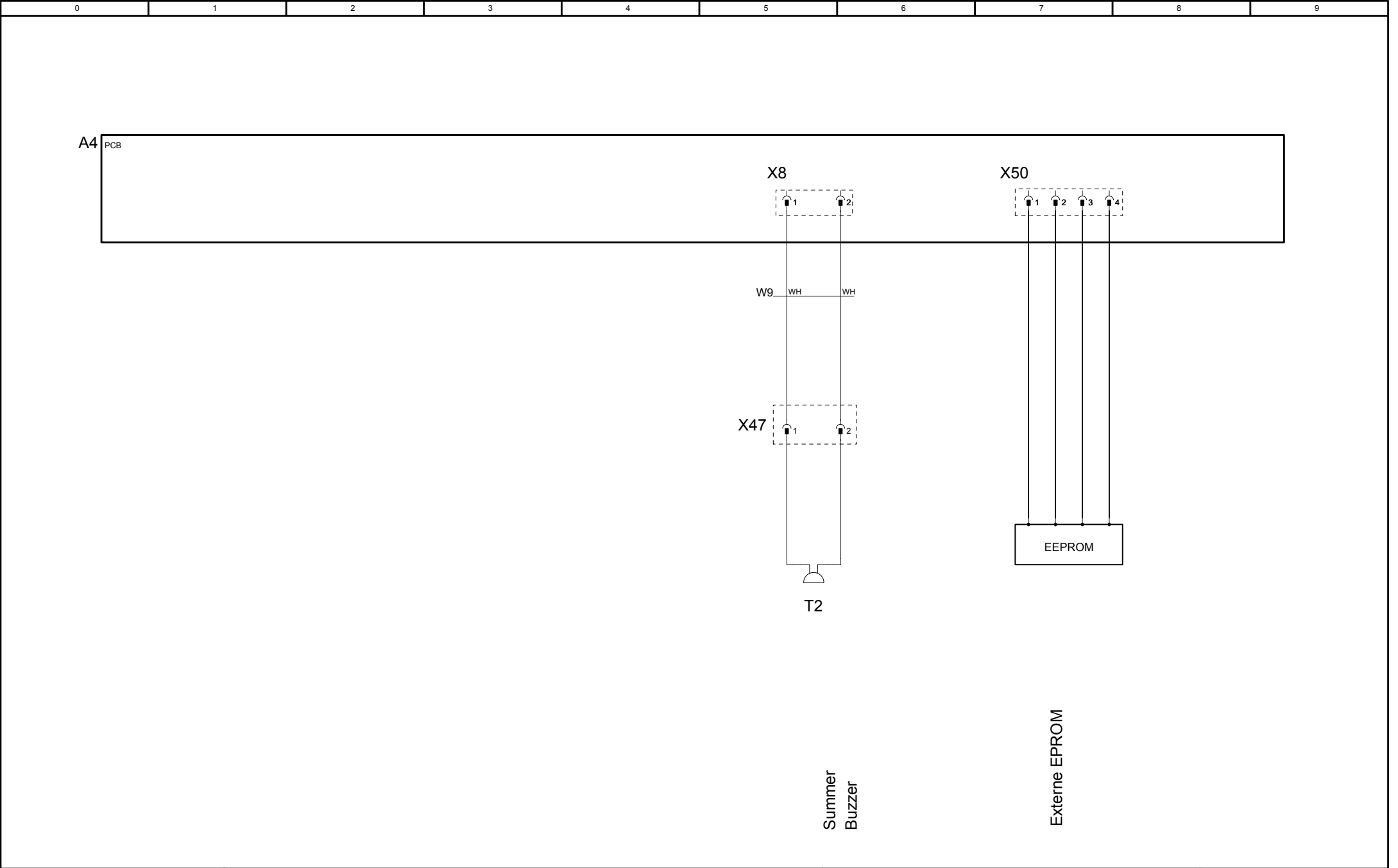
Version

0





76-00050		MODUL 4 Wasser Water, Drain, CleanJet	CM 101/102 G		Erstellt von Created by	PA
Version	0		1NAC230V 50-60Hz		Datum Date	30.04.2004
				Blatt Page	4	



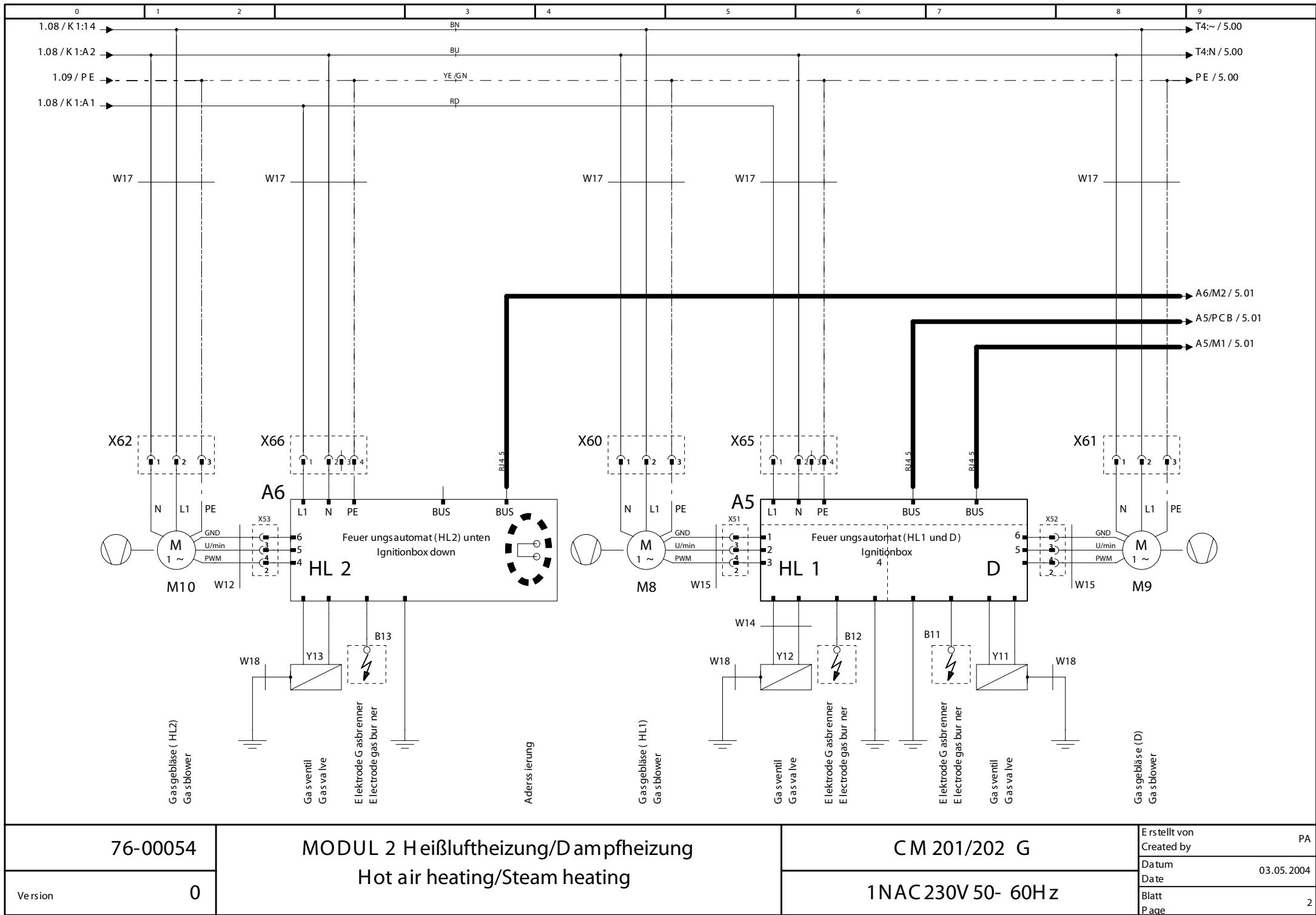
76-00050		MODUL 6 Summer, EEPROM Buzzer, EEPROM	CM 101/102 G		Erstellt von Created by	PA
Version 0			1NAC230V 50-60Hz		Datum Date	30.04.2004
					Blatt Page	6

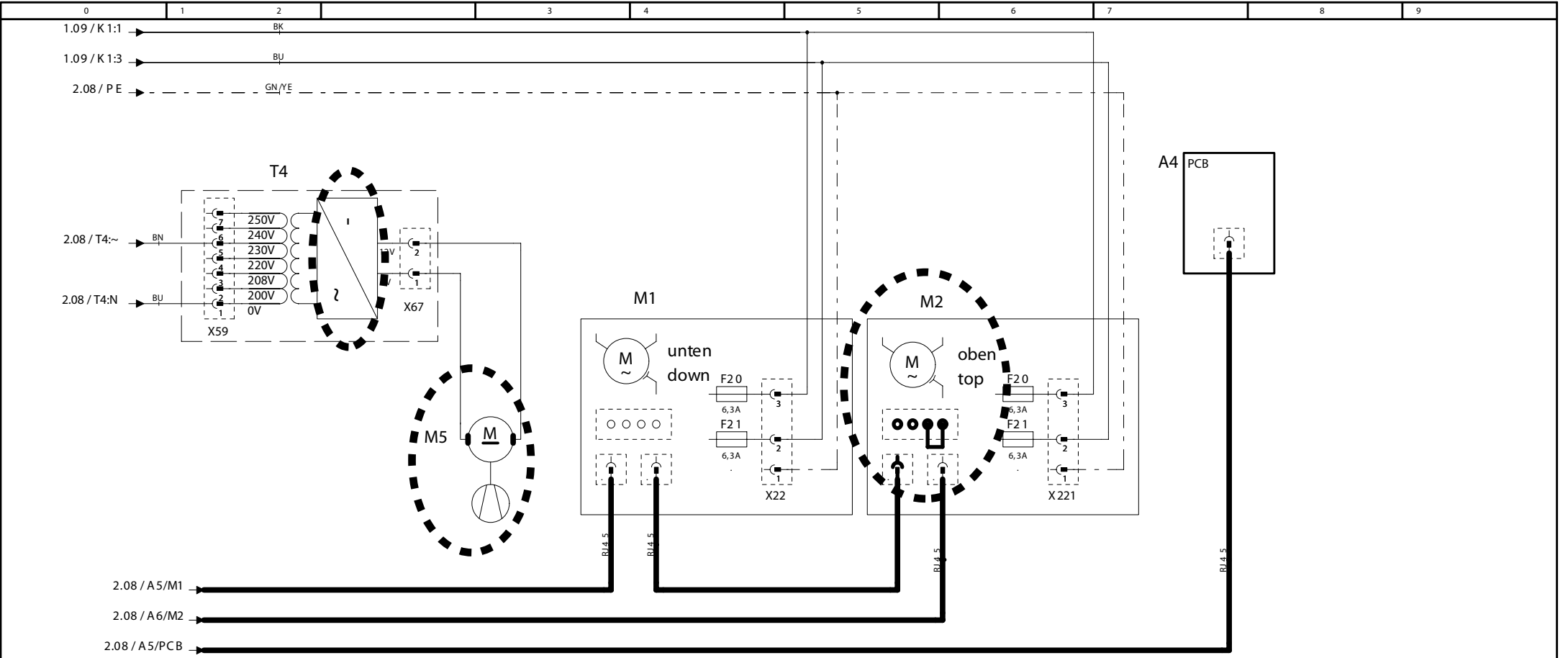
0123456789 A4 PCB X23 Dunstabzug Extractor hood 1 2 3										
76-00050		MODUL 7 Option Options				CM 101/102 G		Erstellt von Created by		PA
Version	0					1NAC230V 50-60Hz		Datum Date		30.04.2004
								Blatt Page		7

Positionsliste
Bill of material

Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
A4	42.00.004	Bedienplatine CM	Operator PCB CM	Modul 8
A5	74.00.221	Feuerungsautomat Brenner 61-202	Ignition box	Modul 2
B1	40.01.097	Thermoelement Garraum	Thermocouple interior cabinet	Modul 3
B2	40.00.287	Thermoelement Ablöschung	Thermocouple quenching system	Modul 3
B3	40.01.603	Thermoelement Kerntemperatur CM	Thermocouple core temperature	Modul 3
B5	40.01.095	Thermoelement Dampfgenerator	Thermocouple steam generator	Modul 3
F1	4001.0224	Steuersicherung	Control fuse	Modul 1
F2	4001.0224	Steuersicherung	Control fuse	Modul 1
F3	3014.0328	Sicherheitstemp. Begrenzer G135°C/275°F E160°C/320°F	Safety temp. limiter G135°C/275°F E160°C/320°F	Modul 1
F4	40.01.482	Sicherheitstemperaturbegrenzer 360°C/680°F	Safety temperature limiter 360°C/680°F	Modul 1
H1	3024.0201	Halogenbeleuchtung alle	Interior cabinet light	Modul 6
K1	40.00.451	Hauptschütz	Main contactor	Modul 1
M1	40.00.274	Lüftermotor TG u. SG	Fan motor	Modul 5
M11	3101.1008	Kühlhlüfter 101/102E u. 202/E J/UL	Cooling fan 101/102E and 202/E J/UL only	Modul 5
M4	44.00.207	SC-Pumpe	SC-pump	Modul 4
M5	3101.1008	Kühlhlüfter 61-202E/G	Cooling fan	Modul 5
M8	70.00.028	Gasgebläse HL unten	Gasblower Hot Air bottom	Modul 2
M9	70.00.028	Gasgebläse DG	Gasblower Steam	Modul 2
S2	44.00.287	Niveauelektrode	Water level electrode	Modul 3
S3	40.00.454	Türkontaktschalter	Door contact switch	Modul 3
S7	40.00.464	Potentiometer Zeit / Kerntemperatur	Time / Core potentiometer	
T1	40.00.278	Trafo	Transformer	Modul 1
T2	3006.0107	Alarmsummer	Buzzer	Modul 6
Y1	50.00.316	Magnetventil Füllen / SCC (Y3) Beschwaden	Solenoid valve filling / SCC (Y3) moistening	Modul 4
Y2	50.00.139	Magnetventil Ablöschung	Solenoid valve quenching system	Modul 4
Z1	40.01.483	Entstörfilter	Electronic noise filter	Modul 1
W0	40.01.596	Anschlusskabel	Power connection cable	Modul 1
W11	40.00.222	Kabel:Halogenbeleuchtung	Cable Halogen light	
W14	40.00.230	Kabel:Feuerungsautomat - Gasventil	Cable Ignition box - gas valve	Modul 2
W15	40.00.215	Kabel:Feuerungsautomat - Gasgebläse	Cable Ignition box - gas blower motor	Modul 2
W17	40.00.246	Kabel: Steuerstamm	Cable Control Supply	Modul 1
W18	40.00.237	Kabel:Erdung Gasventil	Cable ground connection gas valve	Modul 2
W3	40.00.236	Kabel: Platine - Magnetventile	Cable pcb - solenoid valve	Modul 4
W4	40.00.219	Kabel: Platine - SC-Pumpe	Cable pcb - SC-pump	Modul 4
W5	40.00.205	Kabel:Niveauelektrode	Cable water level sensor	Modul 3
W9	40.00.212	Kabel:Alarmsummer	Cable Buzzer	Modul 6

Änderungsdatum	2004-04-01 11:23:09	Name	CM101G	Dokument-Nr.	78-00036
Erzeuger	SCHD	Spannung	1NAC230V 50-60Hz	Version	0





T4 - 40.00.592 (200-250VAC / 12VDC)
M5 - 40.00.474 (12VDC)

Blinkcode Lüftermotor
Siehe Trainingshandbuch Seite 83

Blink code fam motor
See Training manual page 83

12V T rafo
K ühl lü fter
Cooling fan
unten
down
L ü fter motor
Fan motor
oben
top
L ü fter motor
Fan motor

Positionsliste
Bill of material

Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
A4	42.00.004	Bedienplatine CM	Operator PCB CM	Modul 8
A5	74.00.221	Feuerungsautomat Brenner 61-202	Ignition box	Modul 2
A6	74.00.221	Feuerungsautomat Brenner 201/202 HL	Ignition box	Modul 2
B1	40.01.099	Thermoelement Garraum	Thermocouple interior cabinet	Modul 3
B2	40.00.398	Thermoelement Ablöschung	Thermocouple quenching system	Modul 3
B3	40.00.298	Thermoelement Kerntemperatur CM	Thermocouple core temperature	Modul 3
B5	40.01.095	Thermoelement Dampfgenerator	Thermocouple steam generator	Modul 3
F1	4001.0224	Steuersicherung	Control fuse	Modul 1
F2	4001.0224	Steuersicherung	Control fuse	Modul 1
F3	3014.0328	Sicherheitstemp. Begrenzer G135°C/275°F E160°C/320°F	Safety temp. limiter G135°C/275°F E160°C/320°F	Modul 1
F4	40.01.482	Sicherheitstemperaturbegrenzer 360°C/680°F	Safety temperature limiter 360°C/680°F	Modul 1
H1	3024.0201	Halogenbeleuchtung alle	Interior cabinet light	Modul 6
H2	3024.0201	Halogenbeleuchtung 201/202	Interior cabinet light	Modul 6
K1	40.00.451	Hauptschütz	Main contactor	Modul 1
M1	40.00.274	Lüftermotor TG u. SG	Fan motor	Modul 5
M10	70.00.028	Gasgebläse HI oben	Gas blower motor Hot Air top	Modul 2
M2	40.00.274	Lüftermotor SG	Fan motor 201/202	Modul 5
M4	44.00.207	SC-Pumpe	SC-pump	Modul 4
M5	40.00.474	Kühllüfter 61-202E/G	Cooling fan	Modul 5
M8	70.00.028	Gasgebläse HL unten	Gasblower Hot Air bottom	Modul 2
M9	70.00.067	Gasgebläse DG	Gasblower Steam	Modul 2
S2	44.00.287	Niveauelektrode	Water level electrode	Modul 3
S3	40.00.454	Türkontaktschalter	Door contact switch	Modul 3
S7	40.00.464	Potentiometer Zeit / Kerntemperatur	Time / Core potentiometer	
T1	40.00.333	Trafo	Transformer	Modul 1
T2	3006.0107	Alarmsummer	Buzzer	Modul 6
T4	40.00.592	Trafo Kühl Lüfter	Transformer cooling fan 12V DC	Modul 5
Y1	50.00.316	Magnetventil Füllen / SCC (Y3) Beschwaden	Solenoid valve filling / SCC (Y3) moistening	Modul 4
Y2	50.00.139	Magnetventil Ablöschung	Solenoid valve quenching system	Modul 4
Z1	40.01.483	Entstörfilter	Electronic noise filter	Modul 1
W0	40.01.596	Anschlusskabel	Power connection cable	Modul 1
W11	40.00.229	Kabel:Halogenbeleuchtung	Cable Halogen light	
W12	40.00.221	Kabel:Feuerungsautomat - Gasgebläse	Cable Ignition box - gas blower motor	Modul 2
W14	40.00.230	Kabel:Feuerungsautomat - Gasventil	Cable Ignition box - gas valve	Modul 2
W15	40.01.485	Kabel:Feuerungsautomat - Gasgebläse	Cable Ignition box - gas blower motor	Modul 2
W17	40.00.218	Kabel: Steuerstamm	Cable Control Supply	Modul 1
W18	40.00.237	Kabel:Erdung Gasventil	Cable ground connection gas valve	Modul 2
W3	40.00.220	Kabel: Platine - Magnetventile	Cable pcb - solenoid valve	Modul 4
W4	40.00.219	Kabel: Platine - SC-Pumpe	Cable pcb - SC-pump	Modul 4

Änderungsdatum	2004-04-19 16:21:09	Name	CM202G	Dokument-Nr.	78-00114
Erzeuger	SCHD	Spannung	1NAC230V 50-60Hz	Version	0

Positionsliste
Bill of material

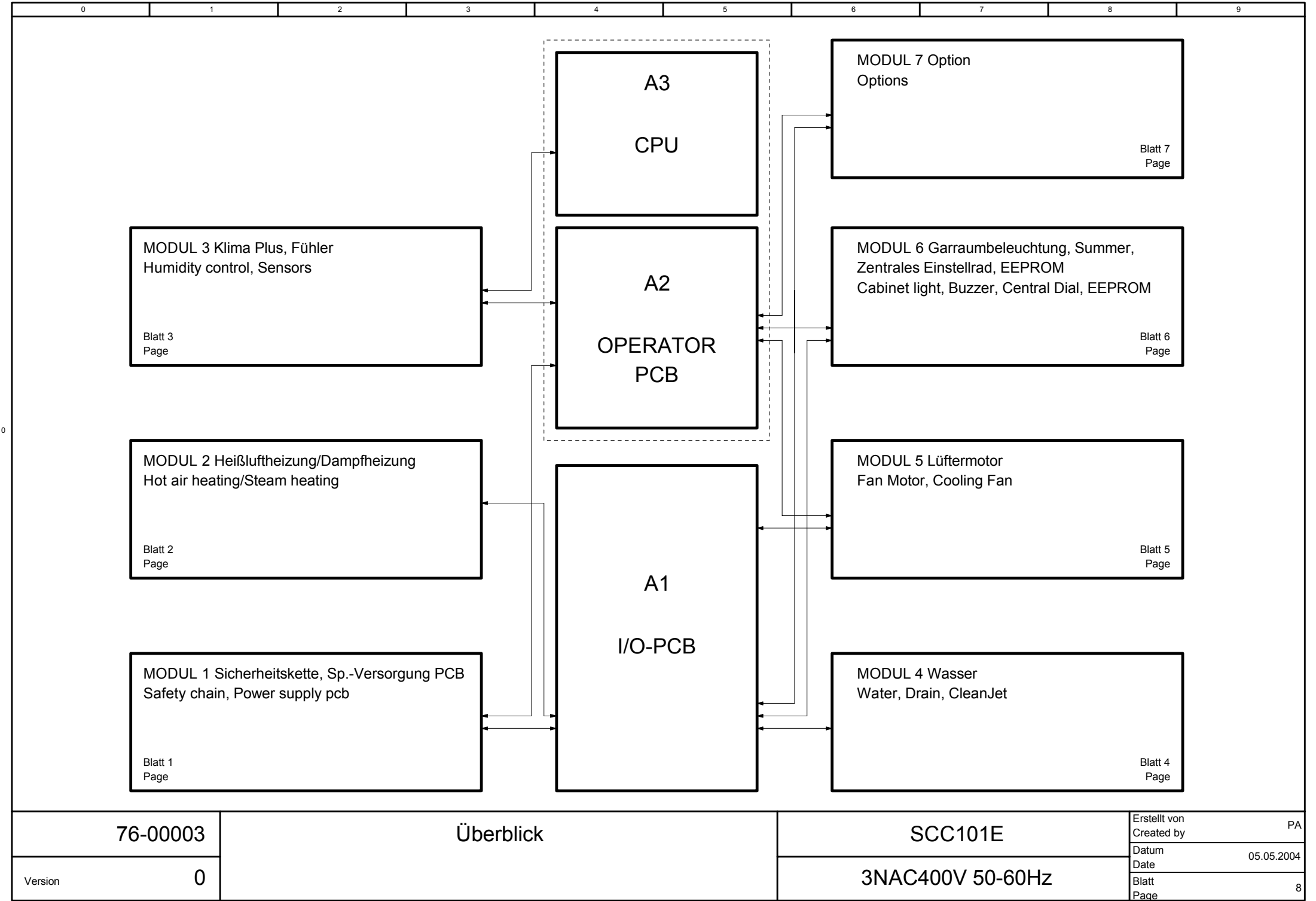
Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
W5	40.01.542	Kabel:Niveauelektrode	Cable water level sensor	Modul 3
W9	40.00.212	Kabel:Alarmsummer	Cable Buzzer	Modul 6

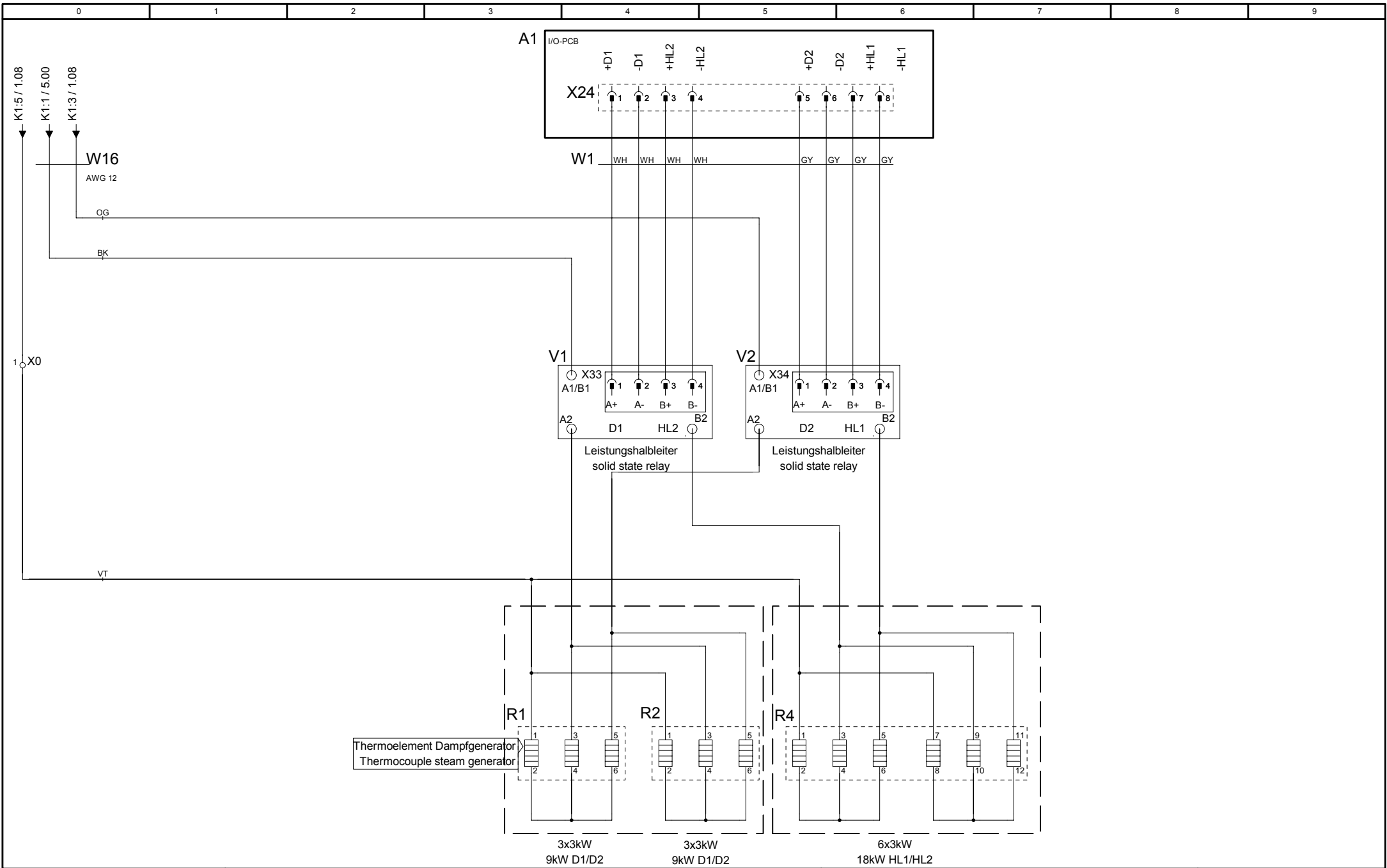
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	Erzeuger	SCHD	Spannung	1NAC230V 50-60Hz	Version	0

Deckblatt Elektrische Dokumentation, Cover sheet for electrical Documentation

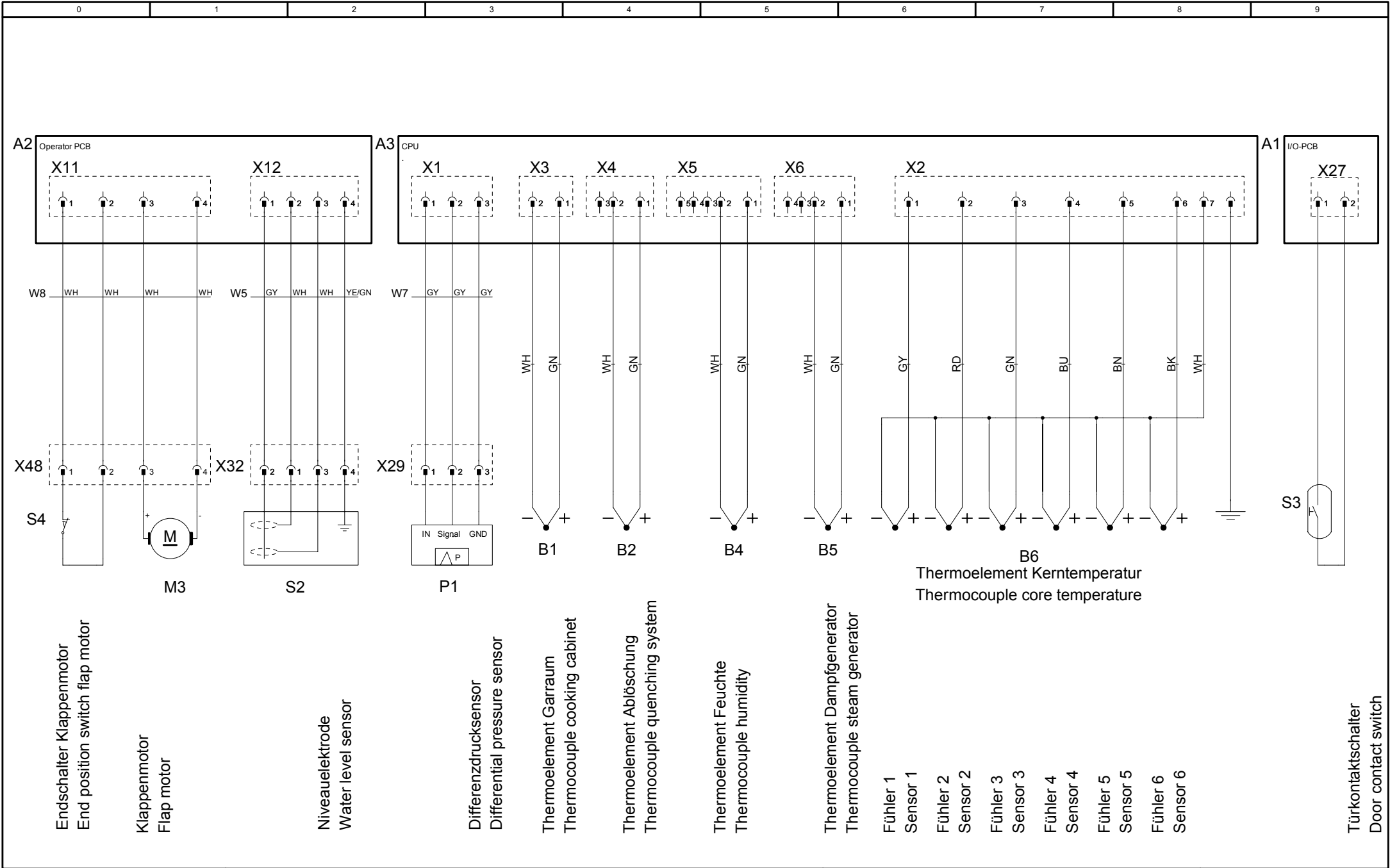
Die Elektrische Dokumentation besteht aus: 1. diesem Deckblatt, 2. dem Schaltplan und 3. der Legende der elektrischen Bauteile
The electric documentation contains: 1. this cover sheet, 2. the wiring diagram and 3. the bill of electrical material (BOM)

Deckblatt-Nr. Front Page No.	75-20065	Version	0
Typ / Type	SCC101E		
Schaltplan Wiring diagram Spannung (SPL) Voltage	76-00003 3NAC400V 50-60Hz	Version	0
Legende Legend electr. components	78-00111	Version	0
Geräteserialnr. Serial number	E11SE0401	Version	0401
Erstellt am Created at	04.05.2004 18:07:16	Ersteller Creator	SCHD
Gültig ab Valid from	04.05.2004		

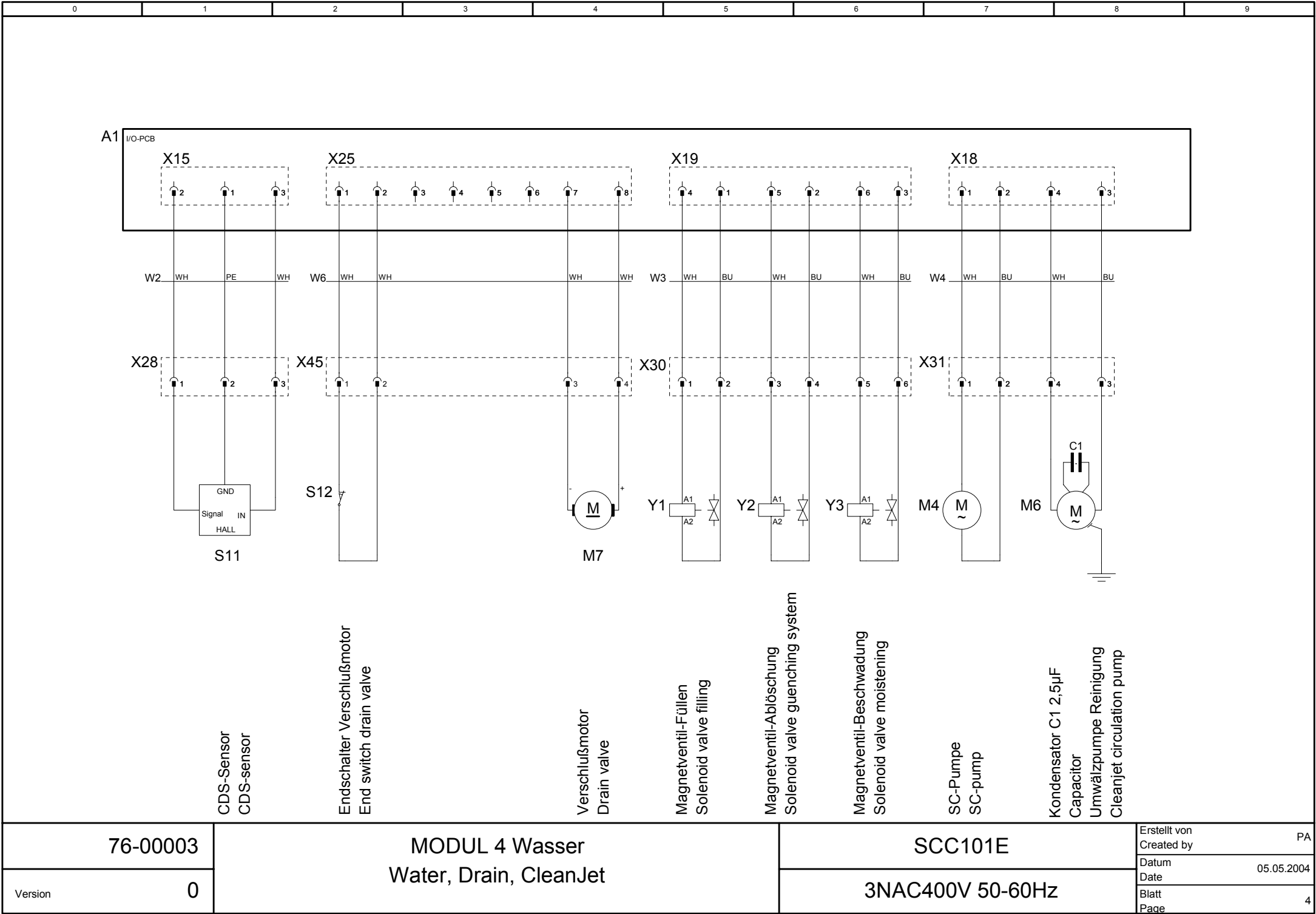


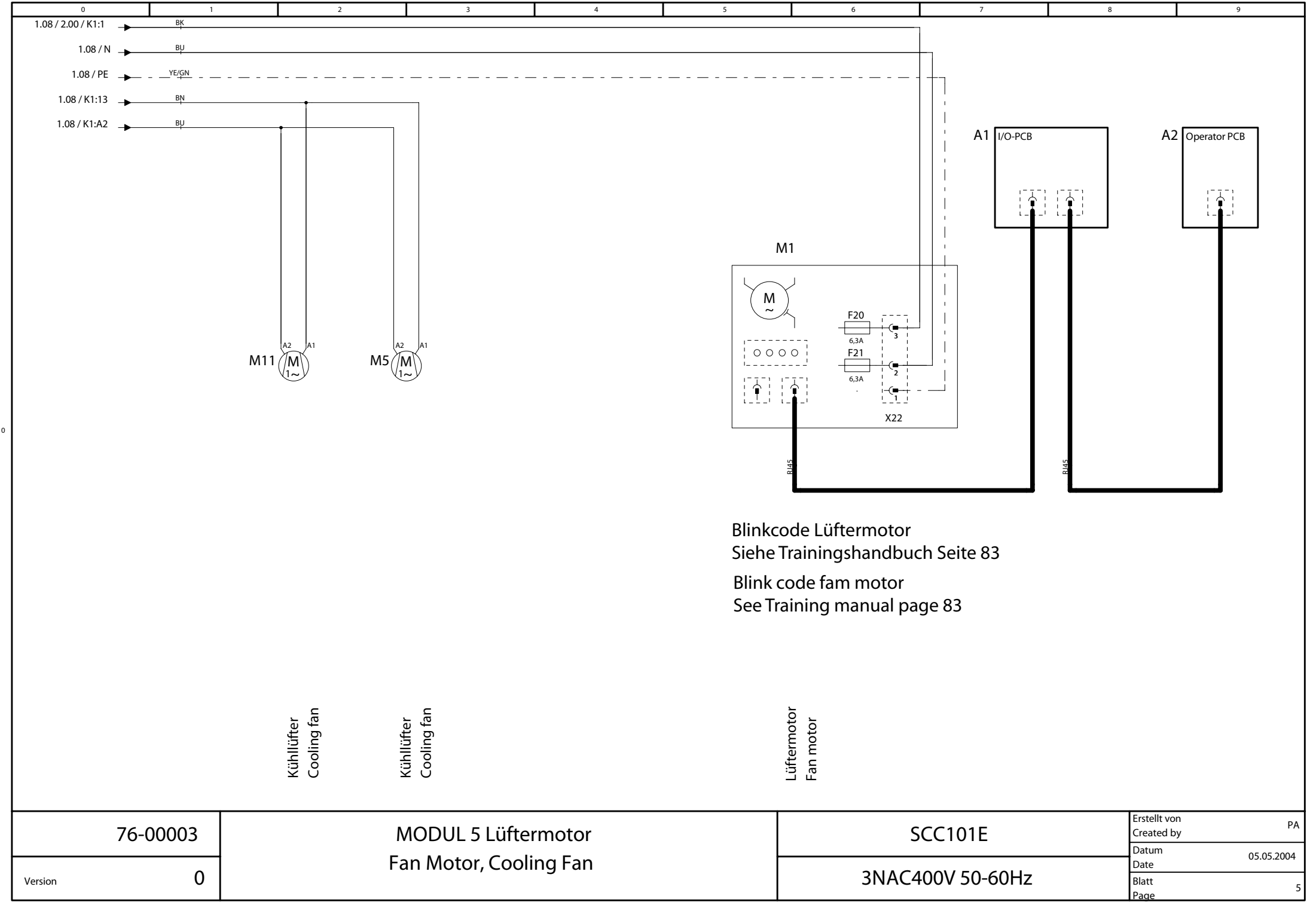


76-00003	MODUL 2 Heißluftheizung/Dampfheizung Hot air heating/Steam heating	SCC101E	Erstellt von Created by	PA
Version0		3NAC400V 50-60Hz	Datum Date	05.05.2004
			Blatt Page	2

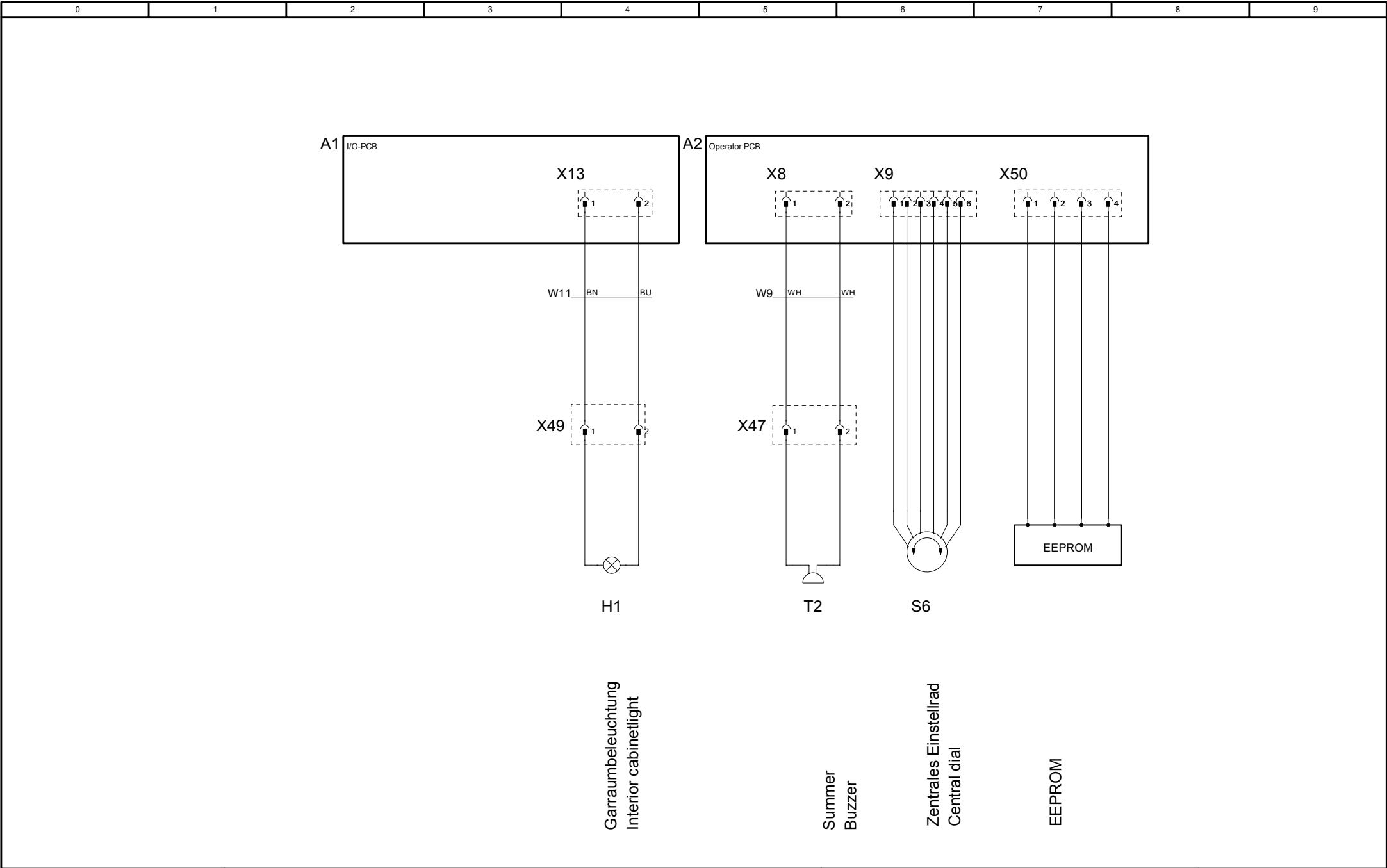


76-00003		MODUL 3 Klima Plus, Fühler Humidity control, Sensors	SCC101E		Erstellt von Created by		PA
Version			3NAC400V 50-60Hz		Datum Date		05.05.2004
0					Blatt Page		3



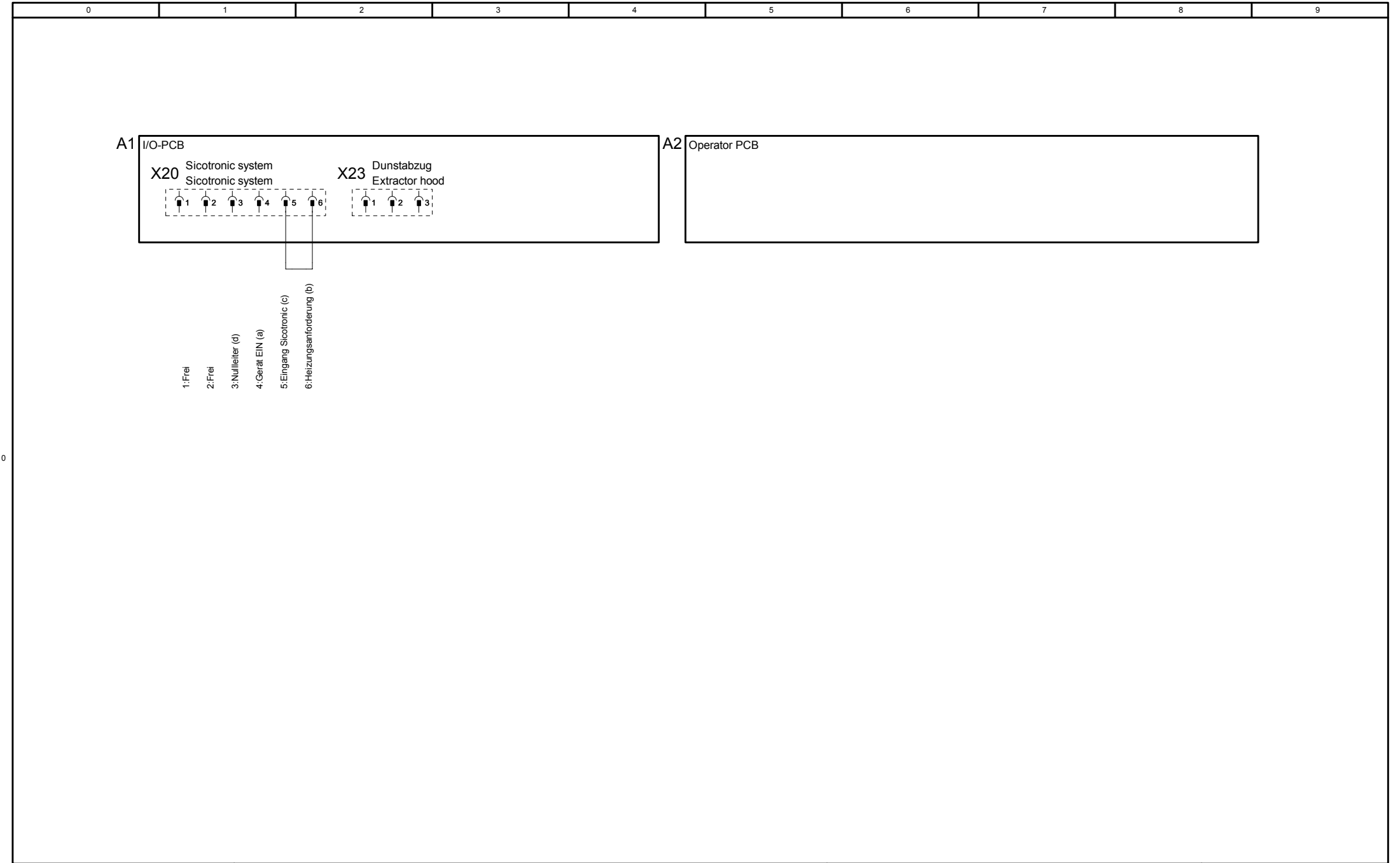


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76-00003	MODUL 6 Garraumbeleuchtung, Summer, Zentrales Einstellrad, EEPROM	SCC101E	Erstellt von Created by	PA
Version		3NAC400V 50-60Hz	Datum Date	05.05.2004
0			Blatt Page	6

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Positionsliste
Bill of material

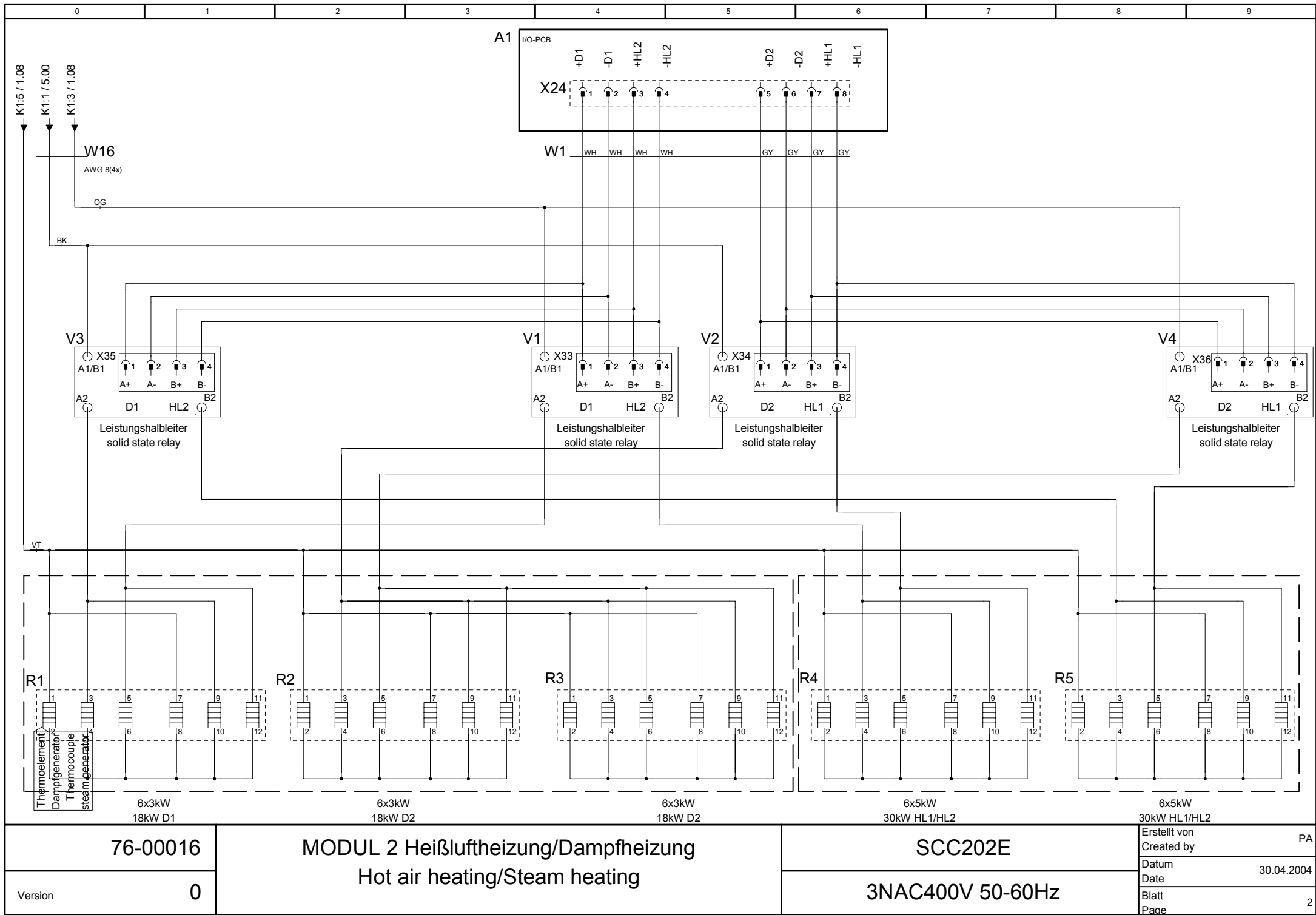
Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
A1	40.00.049	I/O-PCB	I/O-PCB	Modul 8
A2	42.00.002	Bedienplatine SCC	Operator PCB SCC	Modul 1
B1	40.00.395	Thermoelement Garraum	Thermocouple interior cabinet	Modul 3
B2	40.00.287	Thermoelement Ablöschung	Thermocouple quenching system	Modul 3
B4	40.00.290	Thermoelement Feuchte	Thermocouple humidity	Modul 3
B5	40.00.291	Thermoelement Dampfgenerator	Thermocouple steam generator	Modul 3
B6	40.01.604	Thermoelement Kerntemperatur SCC	Thermocouple core temperature	Modul 3
F1	4001.0224	Steuersicherung	Control fuse	Modul 1
F2	4001.0224	Steuersicherung	Control fuse	Modul 1
F3	40.01.329	Sicherheitstemp. Begrenzer G135°C/275°F E160°C/320°F	Safety temp. limiter G135°C/275°F E160°C/320°F	Modul 1
F4	40.00.605	Sicherheitstemperaturbegrenzer 360°C/680°F	Safety temperature limiter 360°C/680°F	Modul 1
H1	3024.0201	Halogenbeleuchtung alle	Interior cabinet light	Modul 6
K1	40.01.555	Hauptschütz	Main contactor	Modul 1
M1	40.00.274	Lüftermotor TG u. SG	Fan motor	Modul 5
M11	3101.1008	Kühllüfter 101/102E u. 202/E J/UL	Cooling fan 101/102E and 202/E J/UL only	Modul 5
M3	3101.1010	Klappenmotor SCC	Flap motor	Modul 3
M4	44.00.207	SC-Pumpe	SC-pump	Modul 4
M5	3101.1008	Kühllüfter 61-202E/G	Cooling fan	Modul 5
M6	56.00.185	Clean Jet Pumpe SCC	CleanJet pump	Modul 4
P1	3017.1011	Differenzdrucksensor	Differential pressure sensor	Modul 3
R1	44.00.194	Dampfheizkörper 61-202	Heating element steam 61-202	Modul 2
R2	44.00.534	Dampfheizkörper 61-202	Heating element steam 61-202	Modul 2
R4	40.00.265	Heißluftheizkörper 61-202	Heating element hot air 61-202	Modul 2
S1	TEXT	Ein/Aus Schalter SSC	On/off switch SCC	Modul 1
S11	44.00.211	CDS-Sensor	CDS-sensor	Modul 4
S2	3002.0402	Niveauelektrode	Water level electrode	Modul 3
S3	40.00.335	Türkontaktschalter	Door contact switch	Modul 3
S4	3016.0102	Mikroschalter Feuchtemotor	Micro switch humidity motor	Modul 3
S6	40.00.404	Zentrales Einstellrad	Central dial	Modul 6
T1	40.00.277	Trafo	Transformer	Modul 1
T2	3006.0107	Alarmsummer	Buzzer	Modul 6
V1	40.01.589	Leistungshalbleiter 61-202/E	Solid state relay	Modul 2
V2	40.01.589	Leistungshalbleiter 61-202/E	Solid state relay	Modul 2
X20	40.00.338	Sicotronic-Klemme	Sicotronic system	Modul 7
Y1	50.00.138	Magnetventil Füllen / SCC (Y3) Beschwaden	Solenoid valve filling / SCC (Y3) moistening	Modul 4
Y2	50.00.139	Magnetventil Ablöschung	Solenoid valve quenching system	Modul 4
Z1	40.00.465	Entstörfilter	Electronic noise filter	Modul 1
W0	8801.0136	Anschlusskabel	Power connection cable	Modul 1
W1	40.00.201	Kabel-Ansteuerung I/O PCB - SSR	Cable I/O PCB - SSR	Modul 2

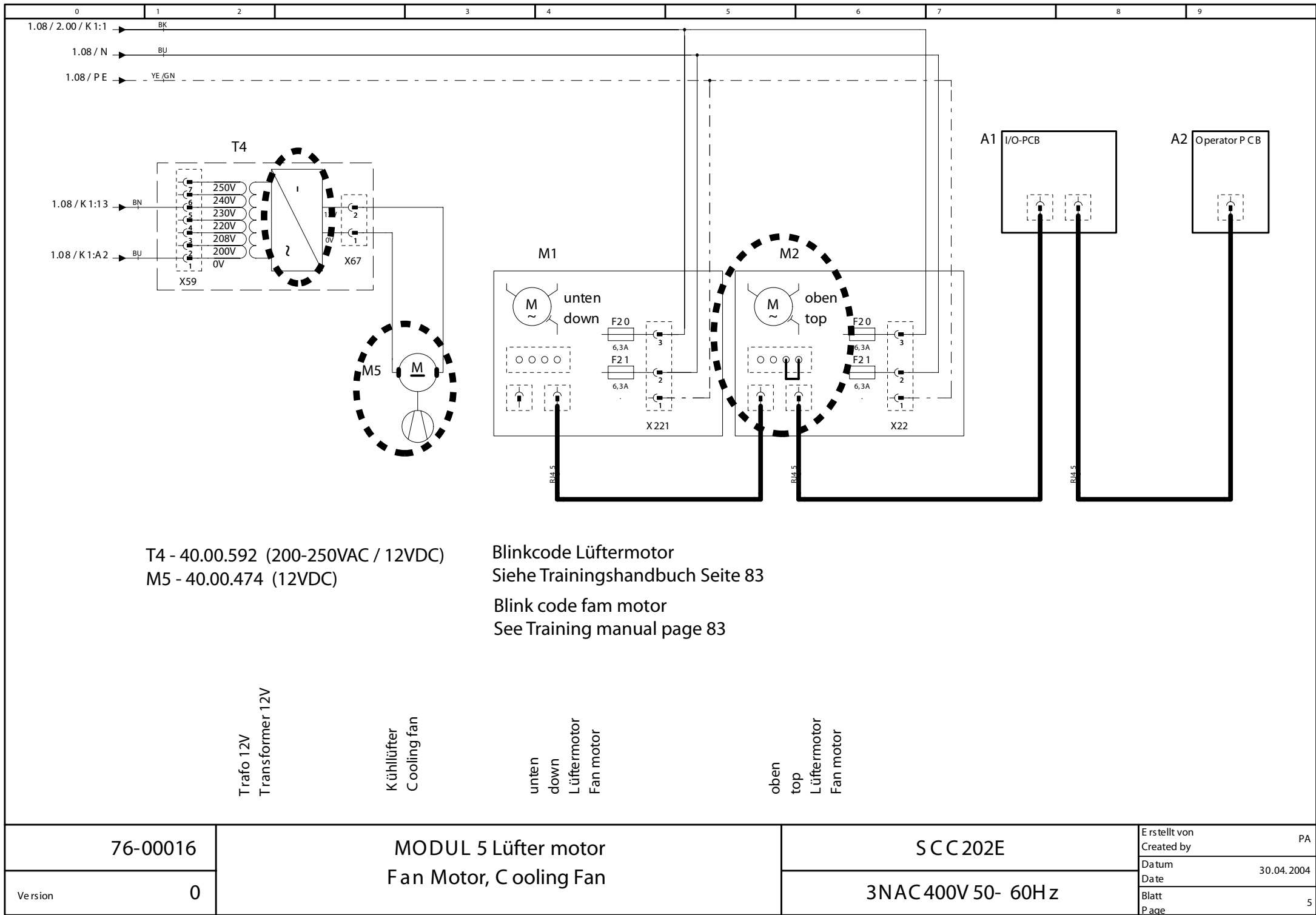
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Erzeuger	SCHD	Spannung	3NAC400/415V 50-60Hz	Version	0

Positionsliste
Bill of material

Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
W10	40.00.210	Kabel:Trafo-Bedienplatine	Cable transformer - operator pcb	Modul 1
W11	40.00.211	Kabel:Halogenbeleuchtung	Cable Halogen light	
W13	40.00.213	Kabel:Trafo - I/O Platine	Cable transformer - I/O pcb	Modul 1
W16	40.00.232	Kabel:Hauptschütz - SSR	Cable Main contactor - SSR	Modul 2
W17	40.01.297	Kabel: Steuerstamm	Cable Control Supply	Modul 1
W2	40.00.202	Kabel: I/O Platine - CDS-Sensor	Cable I/O pcb - CDS-Sensor	Modul 4
W3	40.00.203	Kabel: Platine - Magnetventile	Cable pcb - solenoid valve	Modul 4
W4	40.00.204	Kabel: Platine - SC-Pumpe	Cable pcb - SC-pump	Modul 4
W5	40.00.205	Kabel:Niveauelektrode	Cable water level sensor	Modul 3
W7	40.00.207	Kabel: CPU SCC - Differenzdrucksensor	Cable CPU SCC - Differential pressure sensor	Modul 7
W8	40.00.208	Kabel:Bedienplatine - Klappenmotor	Cable Operator pcb - flap motor	Modul 3
W9	40.00.209	Kabel:Alarmsummer	Cable Buzzer	Modul 6

Änderungsdatum	2004-04-19 13:22:11	Name	SCC101E	Dokument-Nr.	78-00111
Erzeuger	SCHD	Spannung	3NAC400/415V 50-60Hz	Version	0



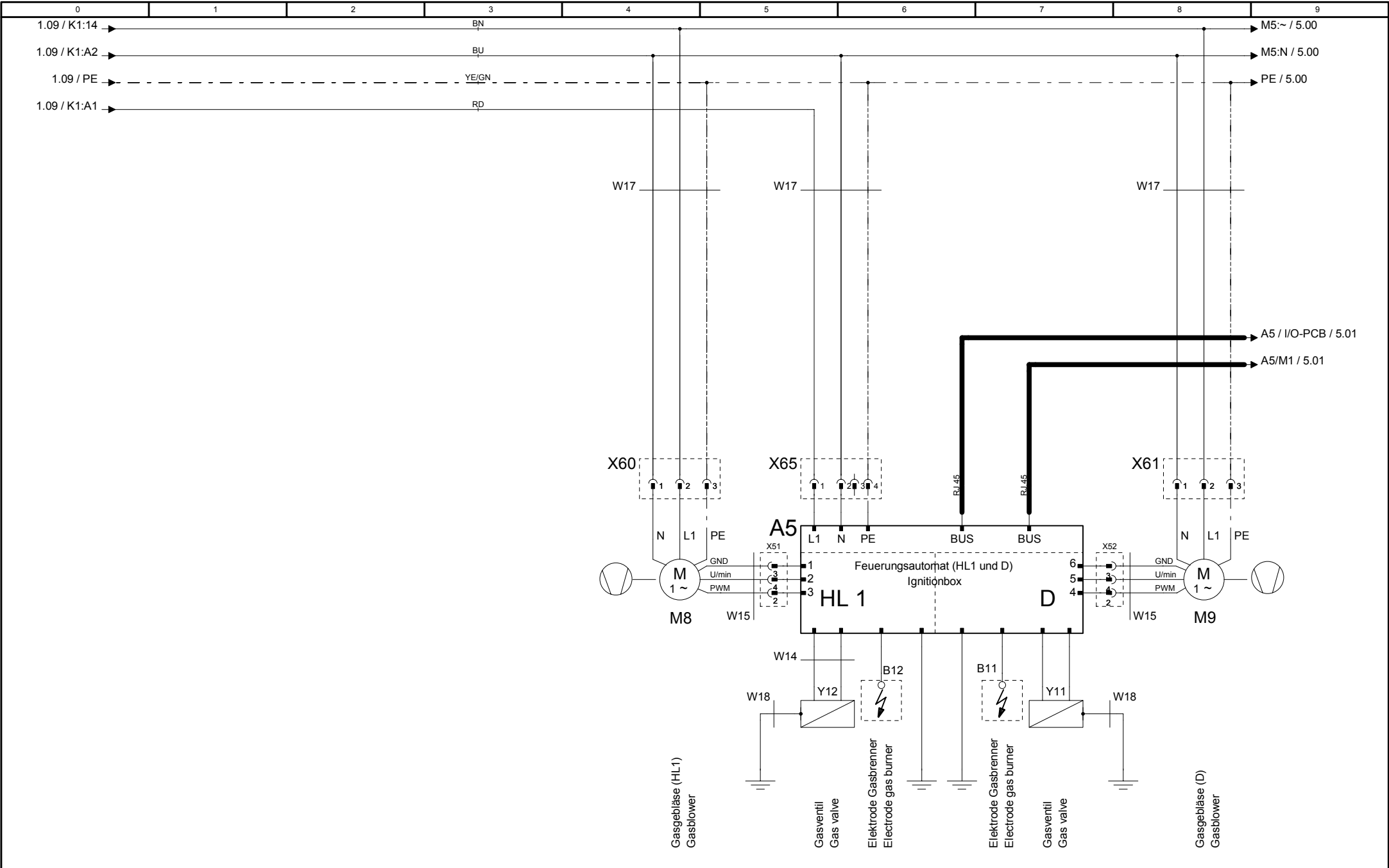


Deckblatt Elektrische Dokumentation, Cover sheet for electrical Documentation

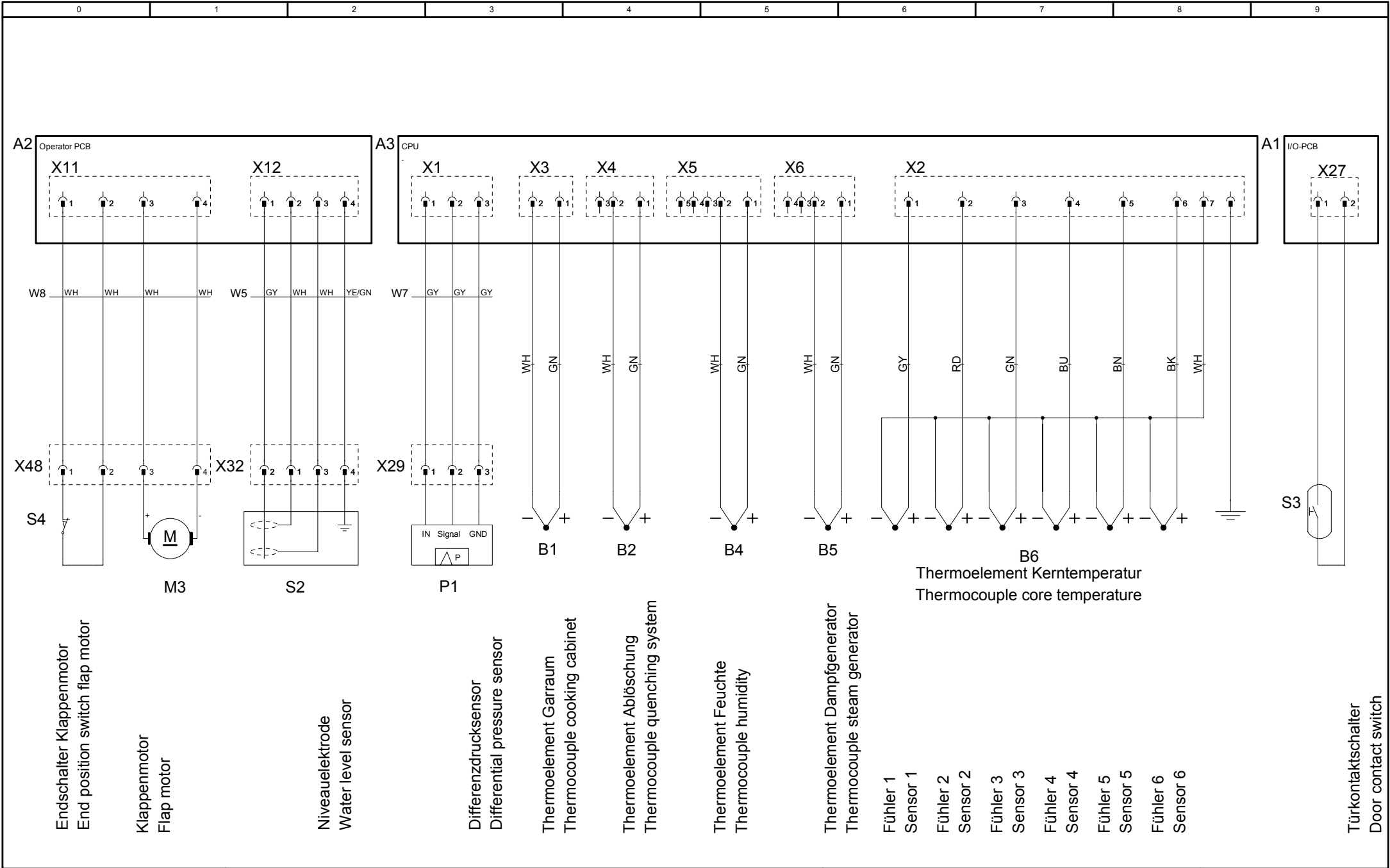
Die Elektrische Dokumentation besteht aus: 1. diesem Deckblatt, 2. dem Schaltplan und 3. der Legende der elektrischen Bauteile
The electric documentation contains: 1. this cover sheet, 2. the wiring diagram and 3. the bill of electrical material (BOM)

Deckblatt-Nr. Front Page No.	75-20008	Version	0
Typ / Type	SCC101G		
Schaltplan Wiring diagram Spannung (SPL) Voltage	76-00006 1NAC230V 50-60Hz	Version	0
Legende Legend electr. components	78-00031	Version	0
Geräteserialnr. Serial number	G11SE0401	Version	0401
Erstellt am Created at	04.05.2004 19:19:00	Ersteller Creator	SCHD
Gültig ab Valid from	04.05.2004		

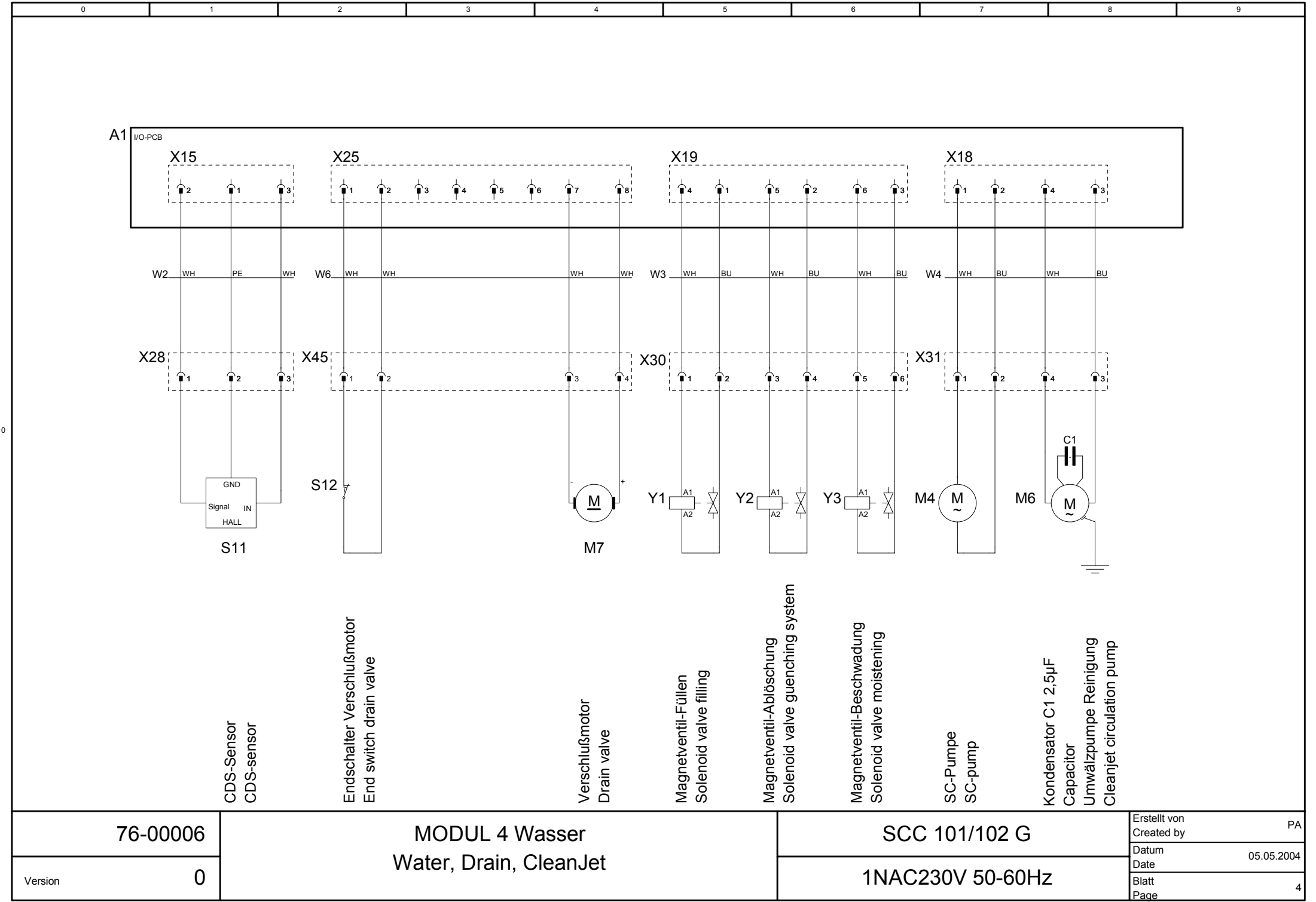
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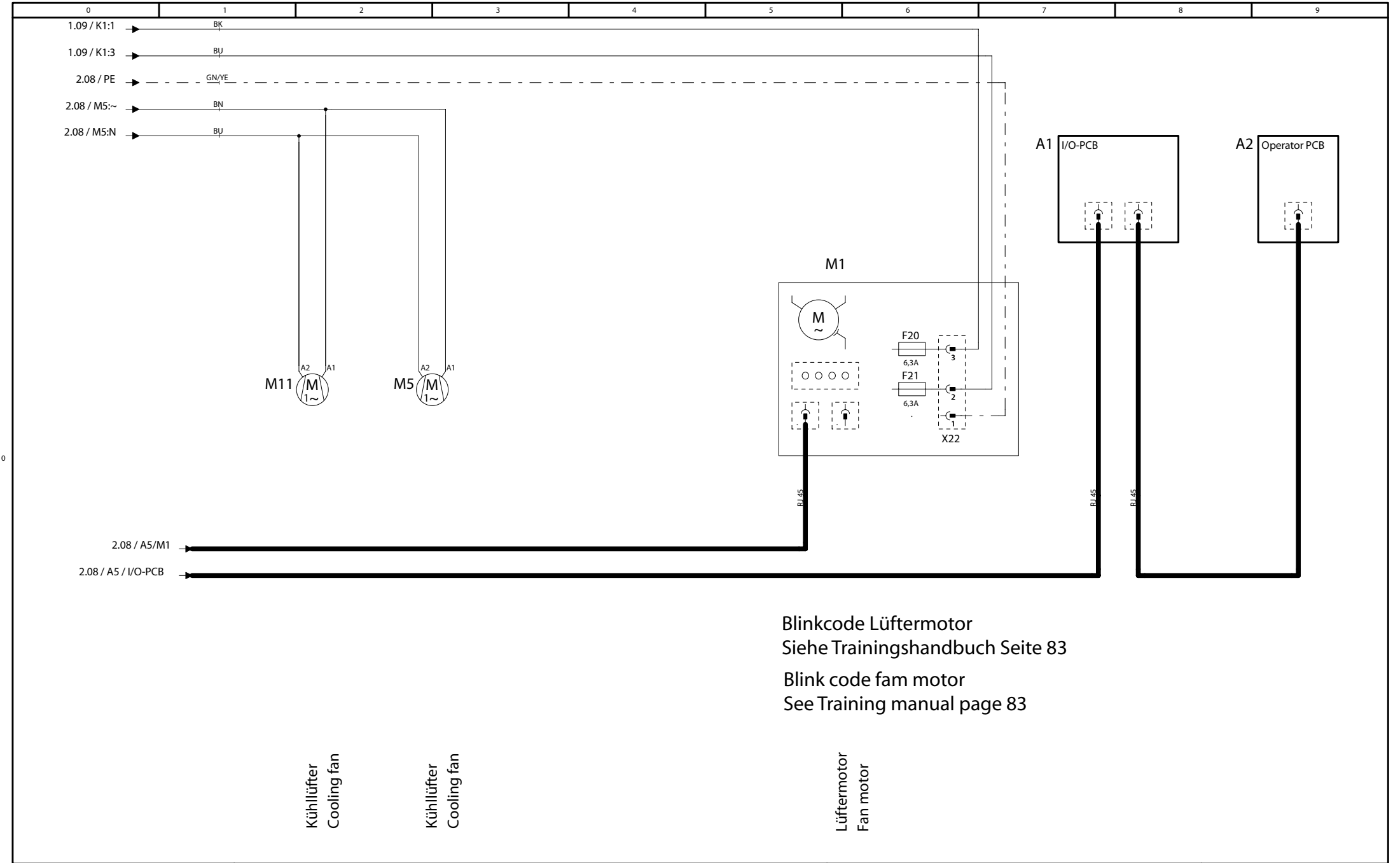


76-00006		MODUL 2 Heißluftheizung/Dampfheizung Hot air heating/Steam heating	SCC 101/102 G		Erstellt von	PA
Version	0		1NAC230V 50-60Hz		Created by	
				Datum	05.05.2004	
				Date		
				Blatt	2	
				Page		



76-00006		MODUL 3 Klima Plus, Fühler Humidity control, Sensors	SCC 101/102 G		Erstellt von Created by	PA
Version	0		1NAC230V 50-60Hz	Datum Date	05.05.2004	
				Blatt Page	3	



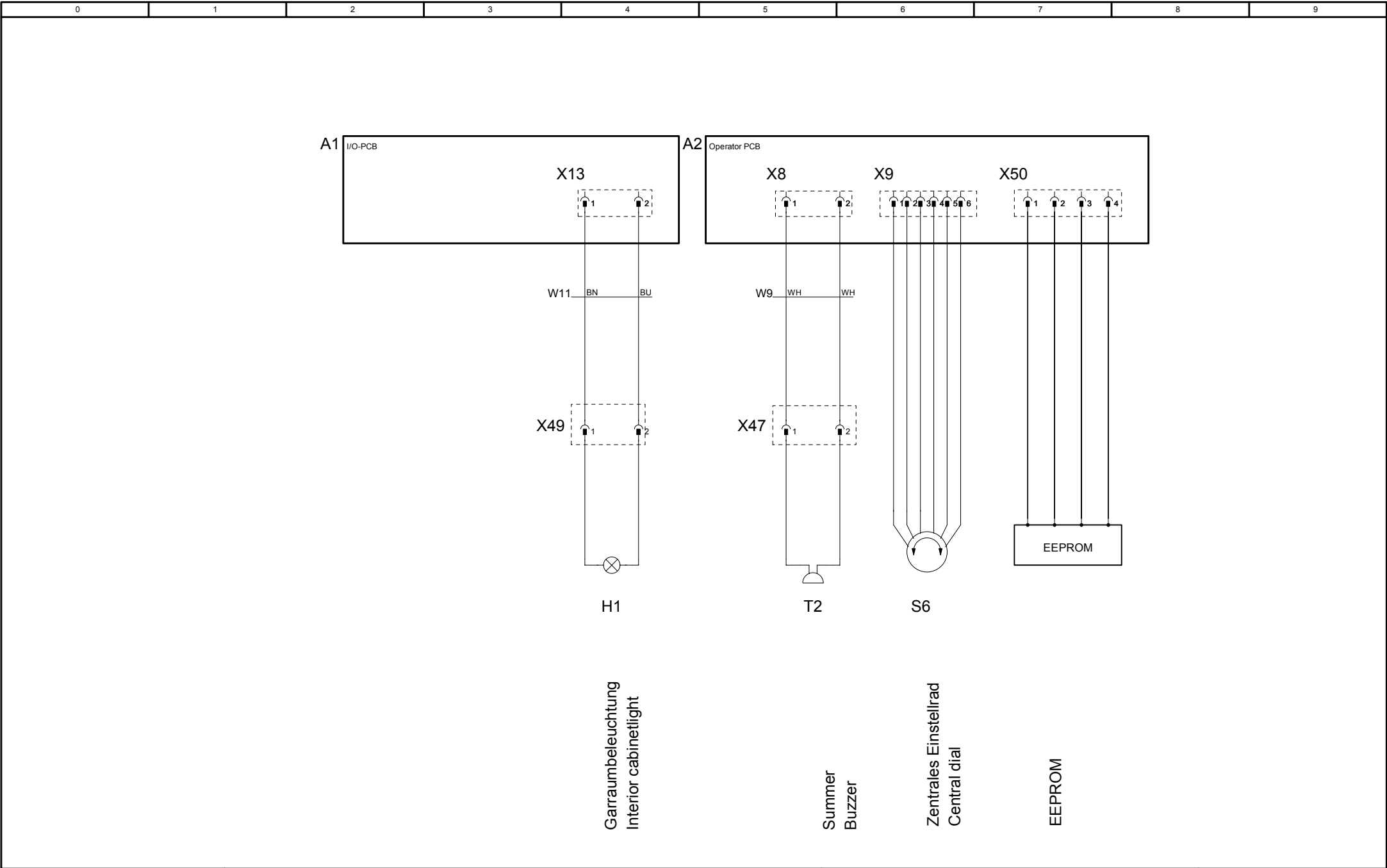


Blinkcode Lüftermotor
Siehe Trainingshandbuch Seite 83

Blink code fam motor
See Training manual page 83

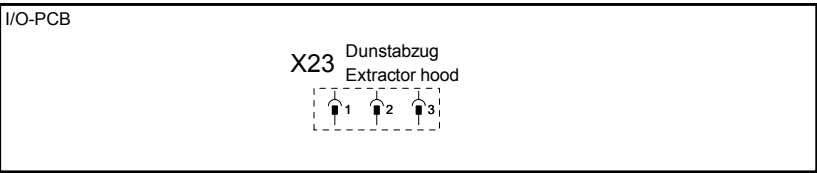
76-00006	MODUL 5 Lüftermotor Fan Motor, Cooling Fan	SCC 101/102 G	Erstellt von Created by	PA
Version 0		1NAC230V 50-60Hz	Datum Date	05.05.2004
			Blatt Page	5

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76-00006		MODUL 6 Garraumbeleuchtung, Summer, Zentrales Einstellrad, EEPROM	SCC 101/102 G		Erstellt von Created by	PA
Version	0		1NAC230V 50-60Hz		Datum Date	05.05.2004
					Blatt Page	6

A1



A2



Positionsliste
Bill of material

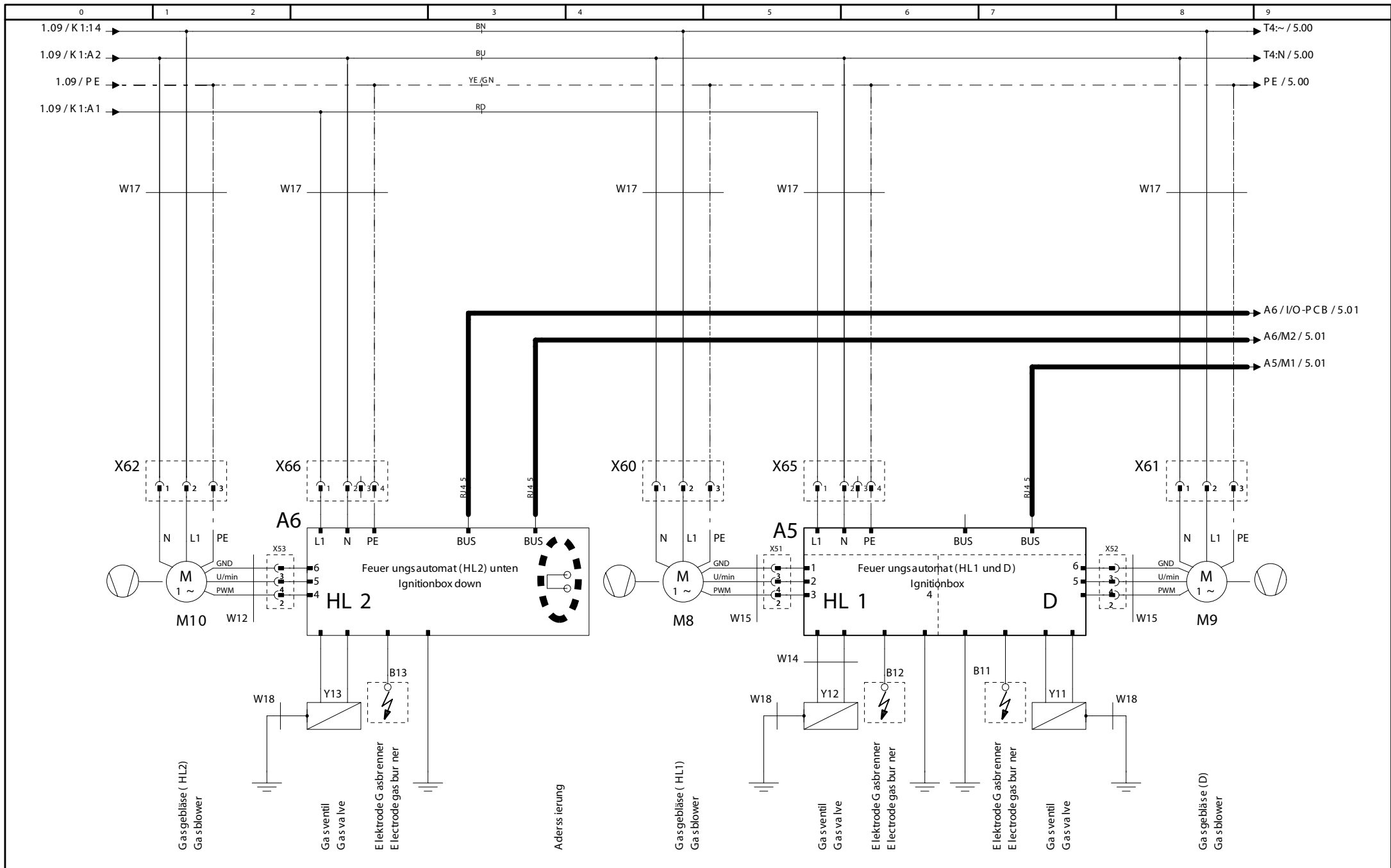
Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
A1	40.00.049	I/O-PCB	I/O-PCB	Modul 8
A2	42.00.002	Bedienplatine SCC	Operator PCB SCC	Modul 1
A5	74.00.221	Feuerungsautomat Brenner 61-202	Ignition box	Modul 2
B1	40.01.097	Thermoelement Garraum	Thermocouple interior cabinet	Modul 3
B2	40.00.287	Thermoelement Ablöschung	Thermocouple quenching system	Modul 3
B4	40.00.290	Thermoelement Feuchte	Thermocouple humidity	Modul 3
B5	40.01.095	Thermoelement Dampfgenerator	Thermocouple steam generator	Modul 3
B6	40.01.604	Thermoelement Kerntemperatur SCC	Thermocouple core temperature	Modul 3
F1	4001.0224	Steuersicherung	Control fuse	Modul 1
F2	4001.0224	Steuersicherung	Control fuse	Modul 1
F3	3014.0328	Sicherheitstemp. Begrenzer G135°C/275°F E160°C/320°F	Safety temp. limiter G135°C/275°F E160°C/320°F	Modul 1
F4	40.01.482	Sicherheitstemperaturbegrenzer 360°C/680°F	Safety temperature limiter 360°C/680°F	Modul 1
H1	3024.0201	Halogenbeleuchtung alle	Interior cabinet light	Modul 6
K1	40.00.451	Hauptschütz	Main contactor	Modul 1
M1	40.00.274	Lüftermotor TG u. SG	Fan motor	Modul 5
M11	3101.1008	Kühllüfter 101/102E u. 202/E J/UL	Cooling fan 101/102E and 202/E J/UL only	Modul 5
M3	3101.1010	Klappenmotor SCC	Flap motor	Modul 3
M4	44.00.207	SC-Pumpe	SC-pump	Modul 4
M5	3101.1008	Kühllüfter 61-202E/G	Cooling fan	Modul 5
M6	56.00.185	Clean Jet Pumpe SCC	CleanJet pump	Modul 4
M8	70.00.028	Gasgebläse HL unten	Gasblower Hot Air bottom	Modul 2
M9	70.00.028	Gasgebläse DG	Gasblower Steam	Modul 2
P1	3017.1011	Differenzdrucksensor	Differential pressure sensor	Modul 3
S1	TEXT	Ein/Aus Schalter SSC	On/off switch SCC	Modul 1
S11	44.00.211	CDS-Sensor	CDS-sensor	Modul 4
S2	44.00.287	Niveauelektrode	Water level electrode	Modul 3
S3	40.00.335	Türkontaktschalter	Door contact switch	Modul 3
S4	3016.0102	Mikroschalter Feuchtemotor	Micro switch humidity motor	Modul 3
S6	40.00.404	Zentrales Einstellrad	Central dial	Modul 6
T1	40.00.277	Trafo	Transformer	Modul 1
T2	3006.0107	Alarmsummer	Buzzer	Modul 6
Y1	50.00.138	Magnetventil Füllen / SCC (Y3) Beschwaden	Solenoid valve filling / SCC (Y3) moistening	Modul 4
Y2	50.00.139	Magnetventil Ablöschung	Solenoid valve quenching system	Modul 4
Z1	40.01.483	Entstörfilter	Electronic noise filter	Modul 1
W0	40.01.596	Anschlusskabel	Power connection cable	Modul 1
W10	40.00.210	Kabel:Trafo-Bedienplatine	Cable transformer - operator pcb	Modul 1
W11	40.00.211	Kabel:Halogenbeleuchtung	Cable Halogen light	
W13	40.00.213	Kabel:Trafo - I/O Platine	Cable transformer - I/O pcb	Modul 1
W14	40.00.230	Kabel:Feuerungsautomat - Gasventil	Cable Ignition box - gas valve	Modul 2

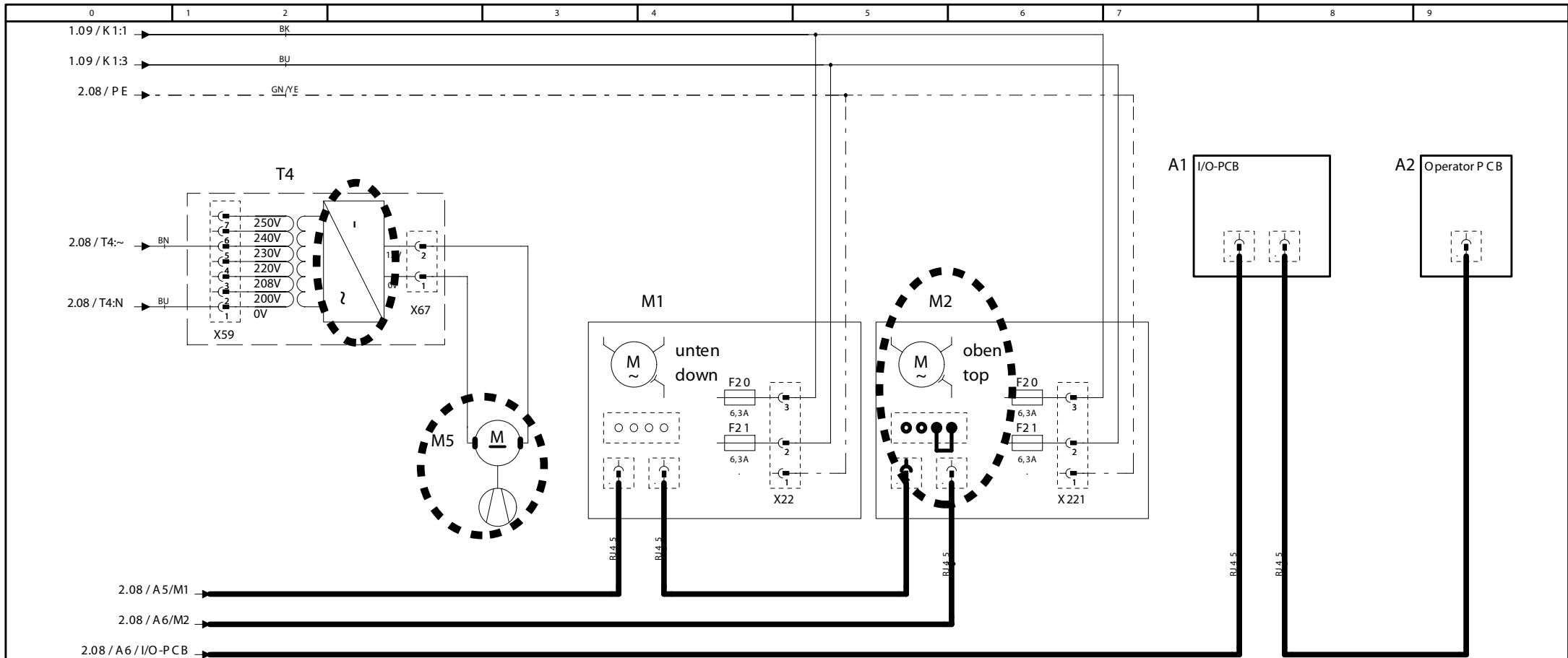
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Erzeuger	SCHD	Spannung	1NAC230V 50-60Hz	Version	0

Positionsliste
Bill of material

Name Name	Artikelnr. Item number	Artikelbezeichnung	Item description	Module Modul
W15	40.00.215	Kabel:Feuerungsautomat - Gasgebläse	Cable Ignition box - gas blower motor	Modul 2
W17	40.01.300	Kabel: Steuerstamm	Cable Control Supply	Modul 1
W18	40.00.237	Kabel:Erdung Gasventil	Cable ground connection gas valve	Modul 2
W2	40.00.202	Kabel: I/O Platine - CDS-Sensor	Cable I/O pcb - CDS-Sensor	Modul 4
W3	40.00.203	Kabel: Platine - Magnetventile	Cable pcb - solenoid valve	Modul 4
W4	40.00.247	Kabel: Platine - SC-Pumpe	Cable pcb - SC-pump	Modul 4
W5	40.00.205	Kabel:Niveauelektrode	Cable water level sensor	Modul 3
W7	40.00.207	Kabel: CPU SCC - Differenzdrucksensor	Cable CPU SCC - Differential pressure sensor	Modul 7
W8	40.00.208	Kabel:Bedienplatine - Klappenmotor	Cable Operator pcb - flap motor	Modul 3
W9	40.00.209	Kabel:Alarmsummer	Cable Buzzer	Modul 6

Änderungsdatum	2004-04-01 08:28:37	Name	SCC101G	Dokument-Nr.	78-00031
Erzeuger	SCHD	Spannung	1NAC230V 50-60Hz	Version	0





T4 - 40.00.592 (200-250VAC / 12VDC)
M5 - 40.00.474 (12VDC)

Blinkcode Lüftermotor
Siehe Trainingshandbuch Seite 83
Blink code fam motor
See Training manual page 83

12V T rafo
Kühl Lüfter
Cooling fan
unten
down
Lüftermotor
Fan motor
oben
top
Lüftermotor
Fan motor

76-00051

MODUL 5 Lüfter motor
Fan Motor, C ooling Fan

SCC 201/202 G

1NAC 230V 50- 60Hz

Erstellt von	PA
Created by	
Datum	30.04.2004
Date	
Blatt	5
Page	

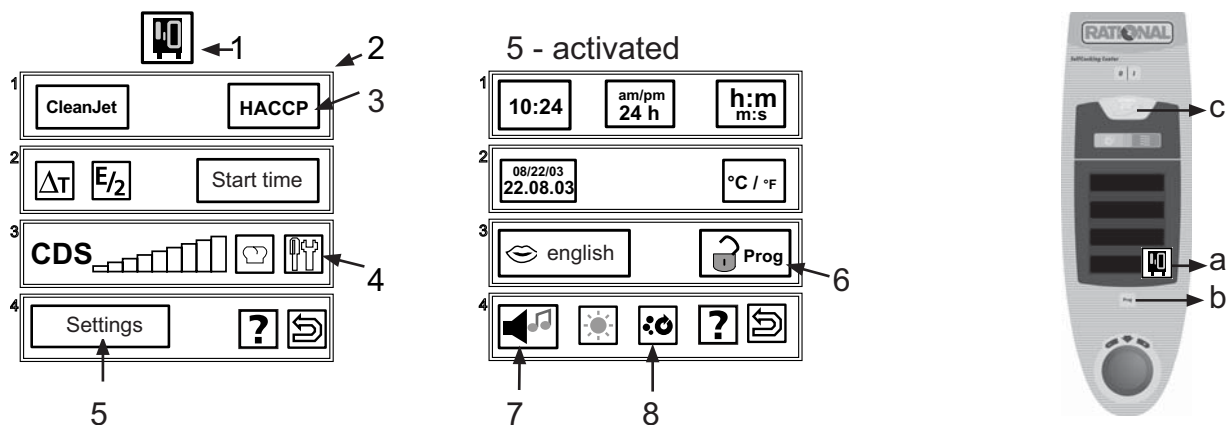
Version

0

Notes:

COMMON

SCC Service Reference



Operating buttons		
1	Function key	
2	Display SCC Functions	
3	HACCP Protocol	- Download
4	Service key	- de-scaling - empty steam generator (with door open) - Display type / software - Download Diagnostic (since 01-07-09)

Service error code:		
Service 10	SC-Pump without Function	
Service 11	level electrode (Osmosis water) or check valve above steam generator for leakage	
Service 12	CDS sensor no output signal	
Service 13	change level electrode	
Service 14	Level electrode (Osmosis water)	
Service 16	since 01-07-09, flash new software version first	
Service 17	external EEPROM faulty	
Service 20	thermocouple B1 faulty	
Service 21	micro switch clima control faulty	
Service 22		
Service 23	SSR steam short circuit	
Service 24	SSR hot air short circuit	
Service 25	CleanJet water circulation faulty - water doesn't hit fan wheel - check pump, foreign bodies in water pipe, racks / trolley must be inside cabinet	
Service 26	drain valve closed	
Service 27	drain valve doesn't close, CleanJet without function	
Service 28	B5 in steam generator above 180°C (356°F), de-scale steam generator	
Service 29	pcb temperature too high (above 85°C / 185°F); change air filter	
Service 30	humidity control faulty	
Service 31.X	core probe faulty	
Service 32.X	ignition box faulty, change ignition box 0-top; 1-bottom; 2-both	
Service 33.X	4x Reset without function, change ignition box; 1-top; 2-bottom	
Service 34.X	BUS signal error 1-I/O pcb, 2-motor bottom; 4-motor top; 8-ignition box top; 16-ignition box bottom	

User settings (5)		
6	Program Lock	Password: 12345; TTREU
7	Buzzer Loudness and duration	duration setting since 01-07-09
8	CleanJet reminder	Active, when symbol is red

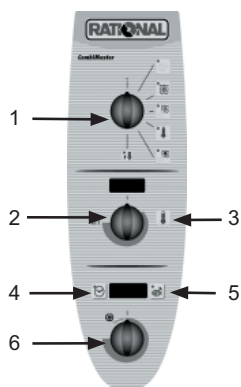
Enter Service level	
set dip switch "1" on pcb to ON position	

Show Mode - switch off or on	
ON	press function key "a" followed by program key "b" and SCC key "c" for 10 seconds until - acoustic signal - Beep and door handle in icon function key "a" shows in red
OFF	press function key "a" followed by program key "b" and SCC key "c" for 10 seconds until - acoustic signal - Beep and door handle in icon function key "a" shows in blue

Gas-settings - values		
Dyn. pressure LPG		27-57 mbar; 2,7-5,7 kPa
Dyn. pressure natural gas		18-25 mbar; 1,8-2,5 kPa
CO ₂ max LPG (G30) 3BP		10,4% +/- 0,2% for type 61-202
CO ₂ max LPG (G31) 3P		11,1% +/- 0,2% for type 61-202
CO ₂ max natural gas H (G20)		9,4% +/- 0,2% for type 61-201 9,5% +/- 0,2% for type 202
CO ₂ max natural gas L (G25)		9,3% +/- 0,2% for type 61-201 9,4% +/- 0,2% for type 202

Abort CleanJet	
switch unit off and on again	

Abort de-scaling program	
before filling de-scaling liquid - use "BACK" arrow	
after filling de-scaler into steam generator - switch unit off and on again - press ABORT key - remaining time will be adjusted automatically - switch unit off and on again - press ABORT key - time will be adjusted automatically 2x - use steam mode for 15 min. and rinse interior cabinet	



CM Service Reference

Key code CM (SCC line)	
a:	Cleaning program
	select Cool Down with "1" press key "5" for 10 sec. „CLen“ is shown in temperature display press key "4" 1x;
b:	De-scaling program
	select Cool Down with "1" press key "5" for 10 sec. „CLen“ is shown in temperature display select "CALC" with "6" press key "4" 1x;
c:	empty steam generator
	select Cool Down with "1" press key "5" for 10 sec. „CLen“ is shown in temperature display select "SC" with "6" press key "4" 1x;
d:	select °C - °F
	select any cooking mode press key "4" and "5" for 10 seconds

Enter Service level (Diagnostic, Settings, Running times)	
	Set dip switch 1 on pcb to "1" position

Enter function test	
	Set dip switch 3 on pcb to "1" position

Diagnostic program		
dP1	Software version	
dP2	B1 cabinet sensor	
dP3	B3 core probe sensor	
dP4	B2 quenching sensor	
dP5	B5 sensor steam generator	
dP6	PCB temperature	must be below 75°C (167°F)
dP7	S3 door contact	0 - open; 1 - closed
dP8	S2 level electrode	0 - no water; 1 - ok
dP9	steam element energised	0 ; 1=50%; 2=100%
dP10	hot air element energised	0 ; 1=50%; 2=100%
dP11	rpm fan motor top	
dP12	rpm fan motor bottom	
dP13	Sicotronic energy optimising	
dP14		
dP15	Unit type and size	
dP16	Gas - Flame current steam	normal: 4,5 - 5,5µA
dP17	Gas - Flame current hot air top	normal: 4,5 - 5,5µA
dP18	Gas - Flame current hot air bottom	normal: 4,5 - 5,5µA

Error code		
Cabinet display	Time display	
H20	OPEn	open water tap
CHnG	PoL	change polarity of mains supply
E1		External EEPROM data error
E2		heating blocked by energy optimising
E3		B1 cabinet sensor defective
E4		B2 quenching sensor defective
E5		B3 core probe sensor defective
E6		B5 steam generator sensor defective
E7		Thermo sensor on pcb defective
E8		potentiometer cabinet temp. defective
E9		potentiometer time / core probe defective
E10		External EEPROM defective
E11		mode switch defective
E12	1Co 1St	fan motor bottom Bus error (LED shows?) fan motor bottom defective
E12	2Co 2St	fan motor top Bus error (LED shows?) fan motor top defective
E13		M4 SC-pump defective or blocked
E14		filling solenoid defective / sieve blocked
E15		pcb temp. above >85°C (185°F), change air filter
E16		B5 steam generator sensor above 180°C (356°F), de-scale steam generator
E17		B5 steam gen. sensor below -5°C (23°F)
E18		B1 cab. sensor above 340°C (640°F) (SSR?)
E20	1 2	Ignition box top bus error Ignition box top bus error
E21	1xx 2xx 3xx	1xx - Steam, 2xx - Hot air top 3xx - Hot air bottom Ignition box defective - change box
E22	1xx 2xx 3xx	1xx - Steam, 2xx - Hot air top 3xx - Hot air bottom Ignition electrode, Ignition box, cable
E24		flash new software first

CPC - Help	
	Total reset1: press key "3"+"4"+"5" and switch off at the same time (erases all customer programs)
	Total reset 2: (memory reset) activate Program lock first; press key "a"+"b"+"c" and switch off at the same time; (erases all customer programs) humidity calibration is needed
Diagnostic mode:	select any mode; press 4 sec. keys: "1"+"3"+"4"
Function test:	select last position in diagnostic mode, press key "5" and select at same time 11:11 in time display, release key "5" and press it again
Abort CleanJet	insert CleanJet arm, press keys: "1"+"2"+"3" until display: X-*.x shows; press key "4" 10 seconds until display "CleanJet Aktive"
Service 1	Steam generator pump without function / blocked
Service 5, 6	insert CJ arm, open and close door; press keys "1"+"2"+"4"
Calccheck1	check level electrode and water leakage
Calccheck 2,3,4	check level electrode, CDS sensor, CDS relais

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