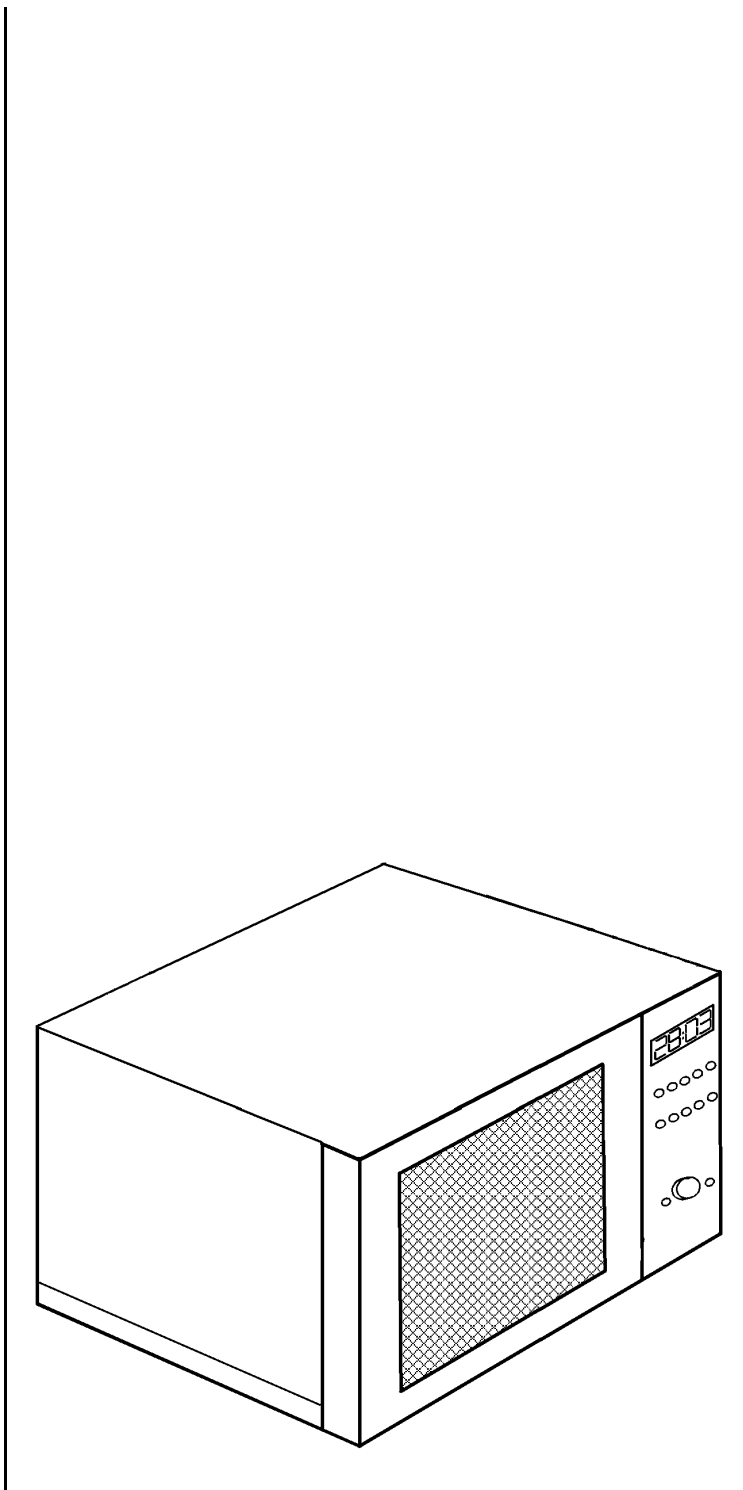




Microwave
EMWK 870.1

Service Manual: H4-70-02-02

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Table of Contents

1. Safety Information	4
2. Control	5
2.1 Control Panel Fascia	5
2.2 Set Time	5
2.3 Microwave-Only Mode	6
2.4 Convection-Only Mode	6
2.5 Minute Minder	6
2.6 Baking with microwave	7
2.7 Memory	7
3. Test Procedures	8
3.1 Function Test	8
3.2 Test Procedure Indication Test	8
3.3 Terminate Test Procedure	9
3.4 Fault Indications	9
4. Trouble Shooting Procedure	10
5. Specifications	11
6. Wiring diagrams and legend	12

1. Safety Information

The purpose of this Service Manual is to supply service technicians who already possess the required technical knowledge for the repair of microwave equipment-specific information on the manner of functioning of the EMWK 870.0.

This manual covers all equipment-specifications relevant for this type.

Descriptions and manners of functioning of the components already known are therefore disregarded in this issue.



Warning!

Improper repairs can cause danger and damage for the user!

To avoid electric shock be sure to heed the following safety information:

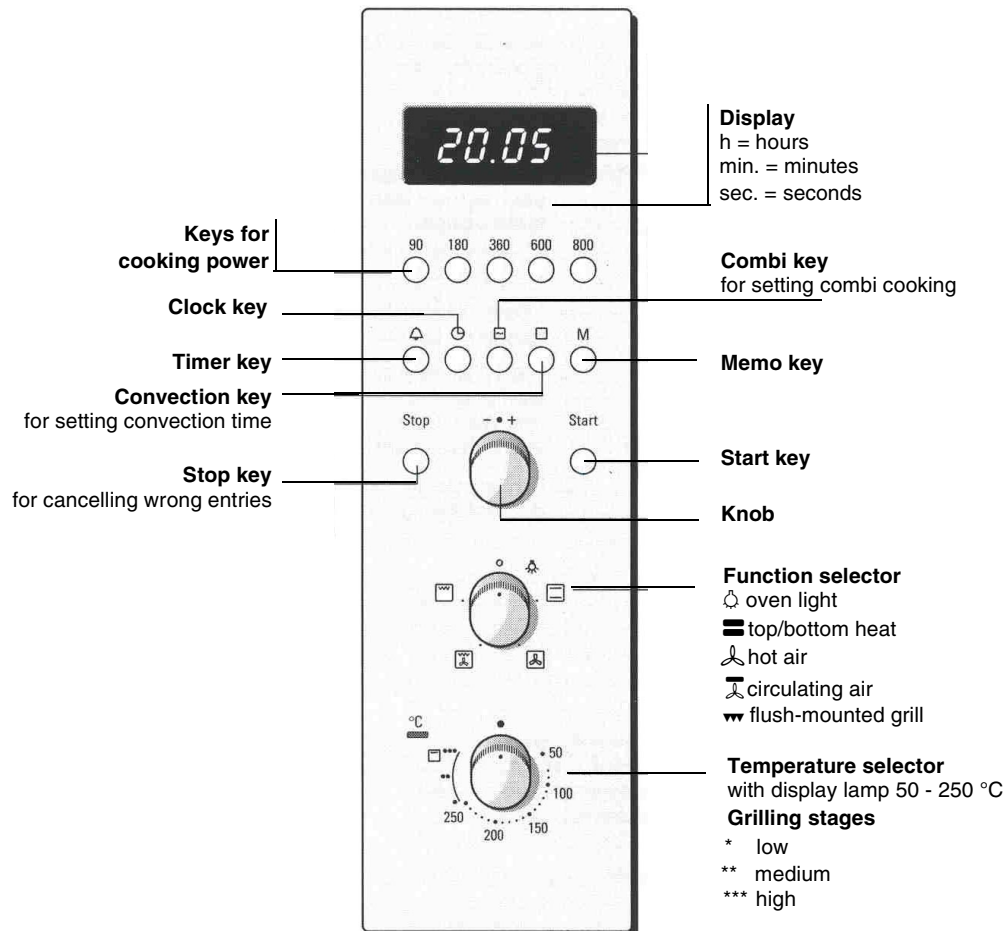
- ◆ In case of malfunction, cabinet and frame could be live!
- ◆ Do not touch any components in the microwave, also modules can carry mains voltage!
- ◆ Always disconnect the microwave from power before starting with the repair!
- ◆ Always use a fault current breaker when 'live' testing with components under a high potential!
- ◆ The ground-lead connection must not exceed the standardized values! It is of decisive importance for the safety of persons and the function of the equipment!
- ◆ On completion of the repair work, carry out a test according to VDE 0701 or equivalent country-specific regulation!
- ◆ On completion of the repair work, carry out a function test!
- ◆ On completion of the repair work, carry out a RF-leakage check!

To avoid damage to the microwave or the components, be sure to heed the following warnings:

- ◆ Heed EGB instructions!
- ◆ Never attempt repair by **indiscriminate** exchange of components!
- ◆ Always proceed systematically and follow the troubleshooting instructions!
- ◆ Do not make any measurements in the high voltage circuit with the microwave oven in operation.
Danger to life!

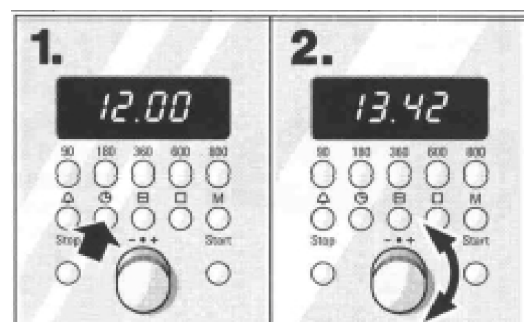
2. Control

2.1 Control Panel Fascia



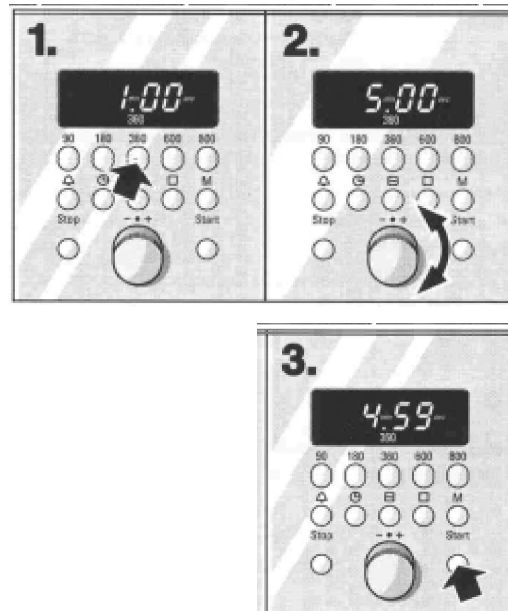
2.2 Set Time

1. Press CLOCK key.
2. Set the desired time via knob.



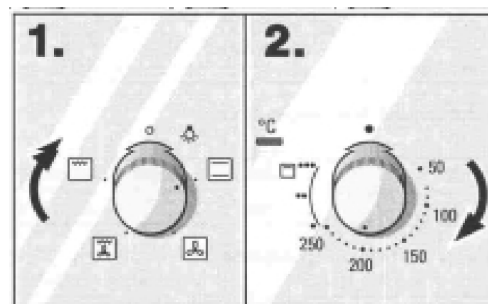
2.3 Microwave-Only Mode

1. Select desired cooking power output.
2. Set desired time via knob.
3. Press START.



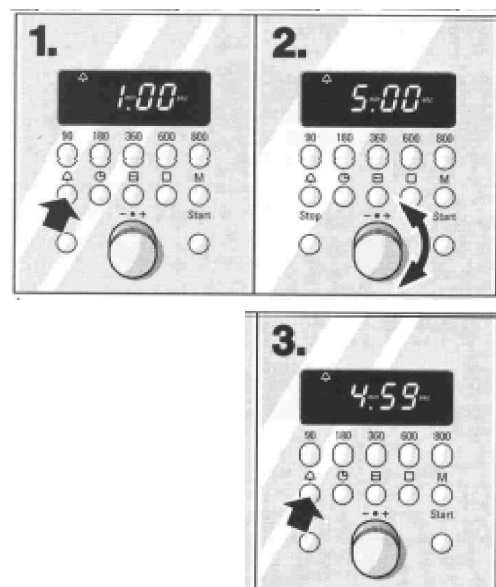
2.4 Convection-Only Mode

1. Select desired cooking programme.
2. Set temperature.



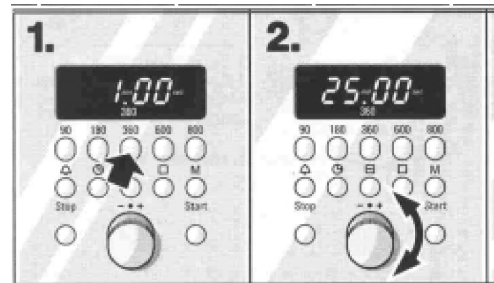
2.5 Minute Minder

1. Press TIMER key.
2. Set desired time via knob.
3. Press TIMER again.

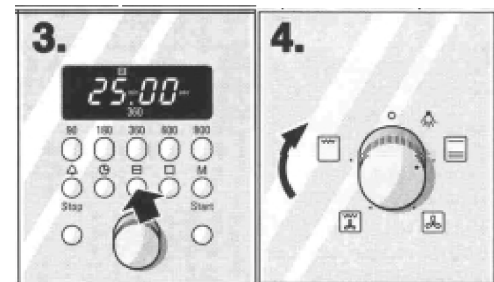


2.6 Baking with microwave

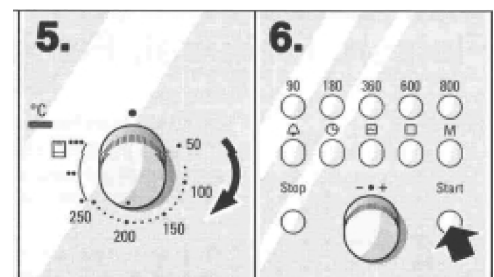
1. Press TIMER key.
2. Set desired time via knob.



3. Press COMBI key.
4. Select cooking programme.



5. Set temperature.
6. Press start.

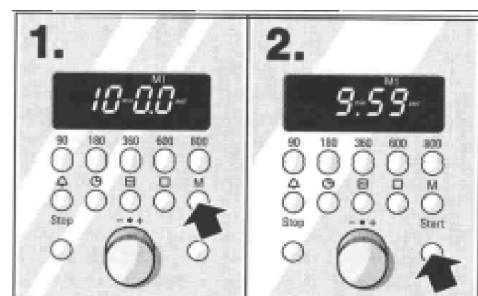


2.7 Memory



Warning!
Stored info lost after power failure!

1. Press MEMO key.
2. Press Start.



3. Test Procedures

3.1 Function Test



Warning!

Access only possible after short switch-off of mains voltage! Access within the next 2 minutes. Oven door may be open or closed!

1. Start key press once.
2. Stop key press twice.
3. Timer key press three times.
4. All segments of the display light up, buzzer sounds.
5. Door open or closed will start the testing procedure.

Key Depressed	Symbol Indication	Indication	Function (consumer)	Relay
Start	800	A6. A7	MW - 800W	K6 /K7 /K2 MW- Start
Timer	Timer	A4	Convection	K4
Clock	Clock	A2	Oven Light Blower	K2

When pressing the keys described, the consumers are driven for the duration of 20 seconds.

3.2 Test Procedure Indication Test



Warning!

Access only possible after short switch-off of mains voltage! Access within the next 2 minutes. Oven door may be open or closed!

1. Stop key press once.
2. Start key press twice.
3. Memo key press three times.
4. All segments of the display light up.
5. Any key will start the testing programme.

Key Depressed	Symbol Indication	Indication
90 W	90	11.11
180 W	180	22.22
360 W	360	33.33
600 W	600	44.44
800 W	800	55.55
Timer	Timer	66.66
Clock	All Symbols	77.77
Combi	Combi Mode Symbol	88.30 ¹
Convection Time	Convection Time	
Memo	M1, M2	
Stop	Buzzer	
Start	No Symbols	Software Version microwave module

¹ Display .30 can be changed by turning time knob.

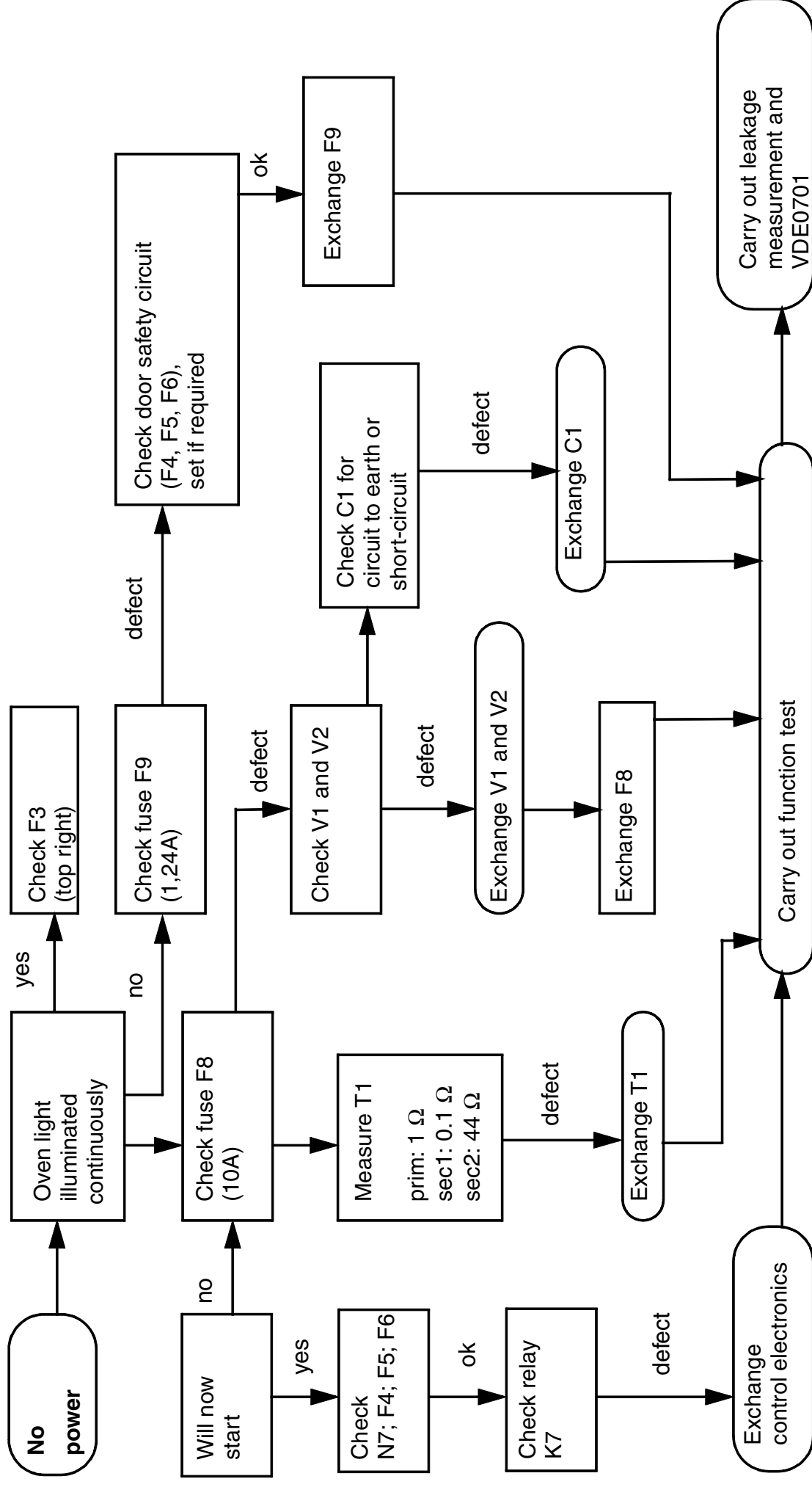
3.3 Terminate Test Procedure

- After 40 sec. without pressing a key, the test procedure is exited!
- By interruption of mains voltage.

3.4 Fault Indications

Error Indication	Faults	Response of Microwave in case of Fault
Er3	Electronics overheated (pcb temperature >85 °C)	Convection does not heat up, blower running. After cooling-off, the fault is cancelled and microwave reheats.
Er9	Fault during ROM-check in microwave module	After a Reset (e.g. power failure) there is a ROM-Check. The fault is only indicated in the module in which the fault actually occurs.

4. Trouble Shooting Procedure



5. Specifications

Connected load	3600 W / 16A
Microwave power levels	90 / 180 / 360 / 600 / 800 W
Top / Bottom heat	1700 W
Variogrill	2000 W
Convection	1700 W
Convection + Grill-System	2000 W
Cabinet dimensions H/B/T	458/595/505 mm
Building-in dimensions H/B/T	450/562/550 mm
Weight	43 kg

Power Consumption

Combi mode with Grill	3500 W 16 A
Combi mode with Convection	3400 W 15 A
Fast Heat-up	2500 W 11 A
Convection-only mode	1700 W 7 A
Microwave-only mode	1600 W 7 A

Consumer

Grill E16	27 Ohm
Bottom heat E12	110 Ohm
Bottom heat E13	16 Ohm
Cooling blower M1	107 Ohm
Recirculating motor M3	86 Ohm
HF transformer	T1
primary	1 Ohm
secondary 1	0.1 Ohm
secondary 2	44 Ohm
Mains transformer	T5
primary	300 Ohm
secondary	1.1 Ohm
Temp. sensor B1 at 20°C	540 Ohm

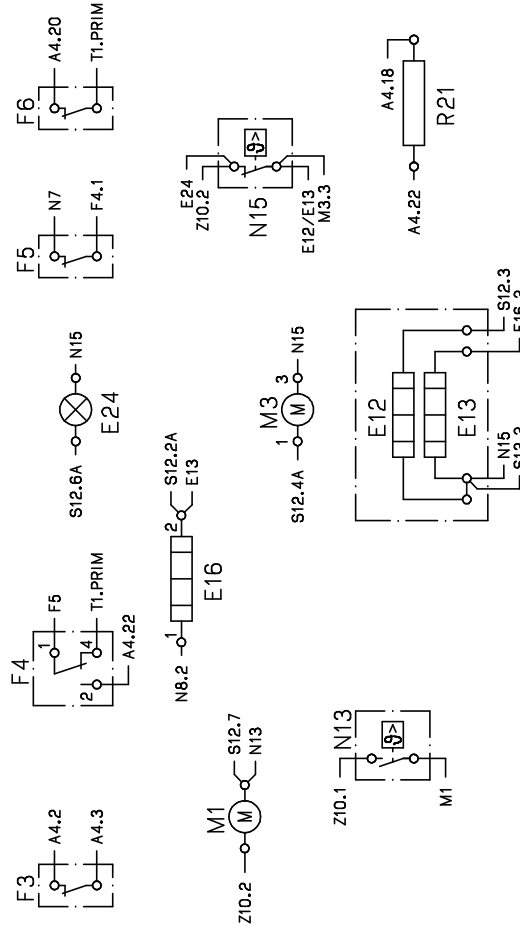
Safety cut-out

20°C - 120°C	24 h
121°C - 200°C	6 h
201°C - 250°C	3 h
251°C - 300°C & Grill	2 h

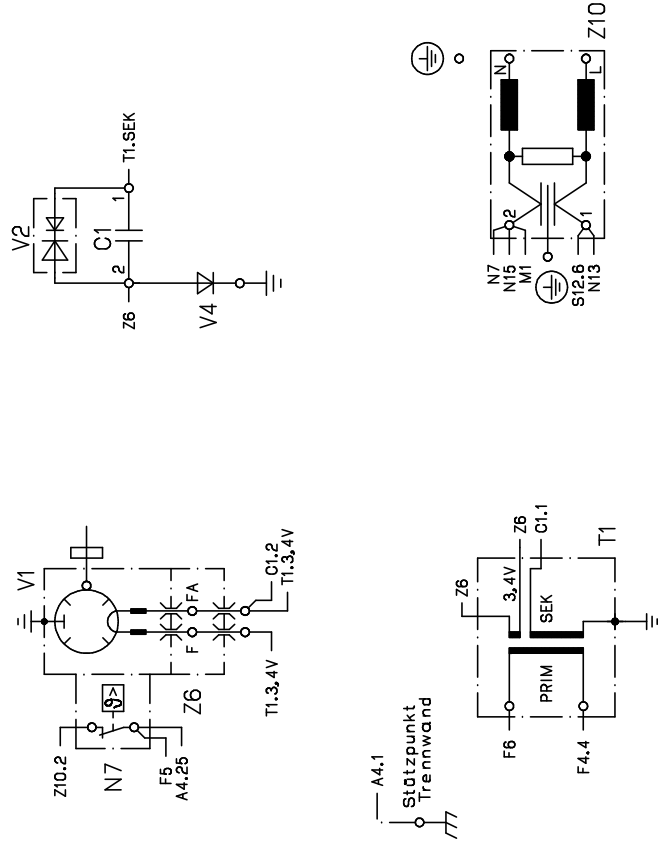
6. Wiring diagrams and legend

			Path of the current
A4	=	Relay board	6-27
A86	=	Control and input unit	7-28
C1	=	High voltage capacitor	28
E12	=	Lower heating element 467W / 230V	7
E13	=	Lower heating element 471W/ 87V	8
E16	=	Grill heating element 2000W / 230V	8
E24	=	Oven lamp 40W	13
F3	=	Safety switch	4
F4	=	Safety switch	25
F5	=	Safety switch	25
F6	=	Safety switch	26
F8	=	Fuse 10A	24
F9	=	Fuse 1.25 A	24
H9	=	Oven temperature control lamp	6
K2	=	Output relay	17
K4	=	Output relay	8
K6	=	Current limiting relay	25
K7	=	Timing pulse relay	25
M1	=	Cooling fan motor	15
M3	=	Convection motor	10
N7	=	Temperature limiter	24
N8	=	Oven regulator	8
N13	=	Cooling fan regulator	15
N15	=	Temperature limiter	8
R21	=	Resistance 30 ohms	24
S12	=	Selection switch	6/8-10/13/14
T1	=	High voltage transformer	26/27
T5	=	Mains transformer	22
V1	=	Magnetron	30
V2	=	Protective diode	29
V4	=	High voltage diode	28
Z6	=	Supressor for mw	30
Z10	=	Noise filter	1-4
Ansicht von hinten	=	Rear view	
rechte Seitenansicht	=	Side view from the right	
Stützpunkt	=	Support point	
Trennwand	=	Partition wall	
Schalterfront aufgeklappt - Ansicht von vorne	=	Switch panel unfolded - front view	
Sicherheitsschalter bei geschlossener Tür	=	Safety switch with door closed	

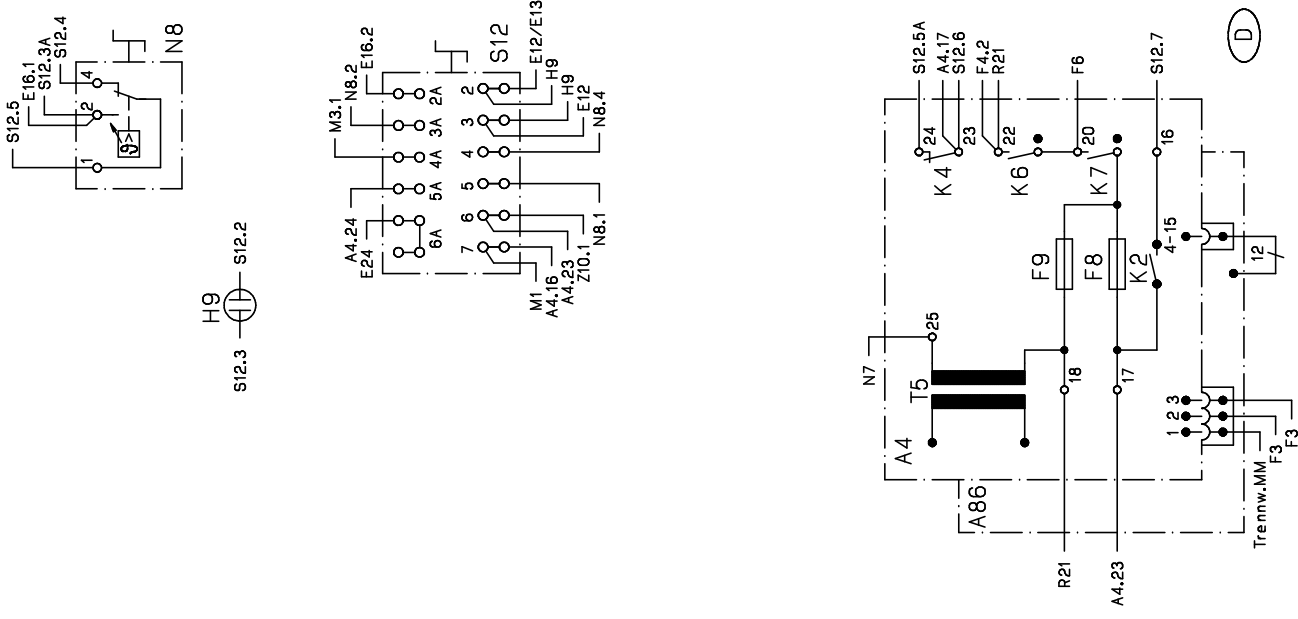
Ansicht von hinten



rechte Seitenansicht



Schalterfront aufgeklappt - Ansicht von vorne



- A4 Relaisplatine
- A86 Steuer- und Eingabeeinheit
- C1 Hochspannungskondensator
- E12 Unterhitze 487W/230V
- E13 Unterhitze 471W/87V
- E16 Grillheizkörper 2000W/230V
- E24 Backofenlampe 40W
- F3 Sicherheitsschalter
- F4 Sicherheitsschalter
- F5 Sicherheitsschalter
- F6 Sicherheitsschalter
- F8 Sicherung 10A
- F9 Sicherung 1,25A
- H9 Backofentemperaturkontrollampe
- K2 Leistungsrelais
- K4 Leistungsrelais
- K6 Begrenzerrelais
- K7 Taktrelais
- M1 Kühlebläsemotor
- M3 Umluftmotor
- N7 Temperaturregler
- N8 Backofenregler
- N13 Kühleblöse-Regler
- N15 Temperaturregler
- R21 Widerstand 30Ω
- S12 Vorwählschalter
- T1 Hochspannungstrafo
- T5 Netztrafo
- V1 Magnetron
- V2 Schutzdiode
- V4 Hochspannungsdiode
- Z6 MW - Entstörereinrichtung
- Z10 Funkenstörfilter

173-76975-001	18.05.1999
HF 85920S	S0-30/2765

Strompfad

A4	Relaisplatine	6-27
A86	Steuer- und Eingabeinheit	7-28
C1	Hochspannungskondensator	28
E12	Unterhitze 467W/230V	7
E13	Unterhitze 471W/87V	8
E16	Grillheizkörper 2000W/230V	8
E24	Backofenlampe 40W	13
F3	Sicherheitsschalter	4
F4	Sicherheitsschalter	25
F5	Sicherheitsschalter	25
F6	Sicherheitsschalter	26
F8	Sicherung 10A	24
F9	Sicherung 1,25A	24
H9	Backofentemperaturkontrollampe	6
K2	Leistungsrelais	17
K4	Leistungsrelais	8
K6	Begrenzerrelais	25
K7	Takrelais	25
M1	Kühlgebläse motor	15
M3	Umluftmotor	10
N7	Temperaturbegrenzer	24
N8	Backofenregler	8
N13	Kühlgebläse-Regler	15
N15	Temperaturbegrenzer	8
R21	Widerstand 30Ω	24
S12	Wahlhlschalter	6/8-10/13/14
T1	Hochspannungstrafo	26/27
T5	Netztrafo	22
V1	Magnetron	30
V2	Schutzdiode	29
V4	Hochspannungsdiode	28
Z6	MW - Entstöreinrichtung	30
Z10	Funktatörfilter	1-4

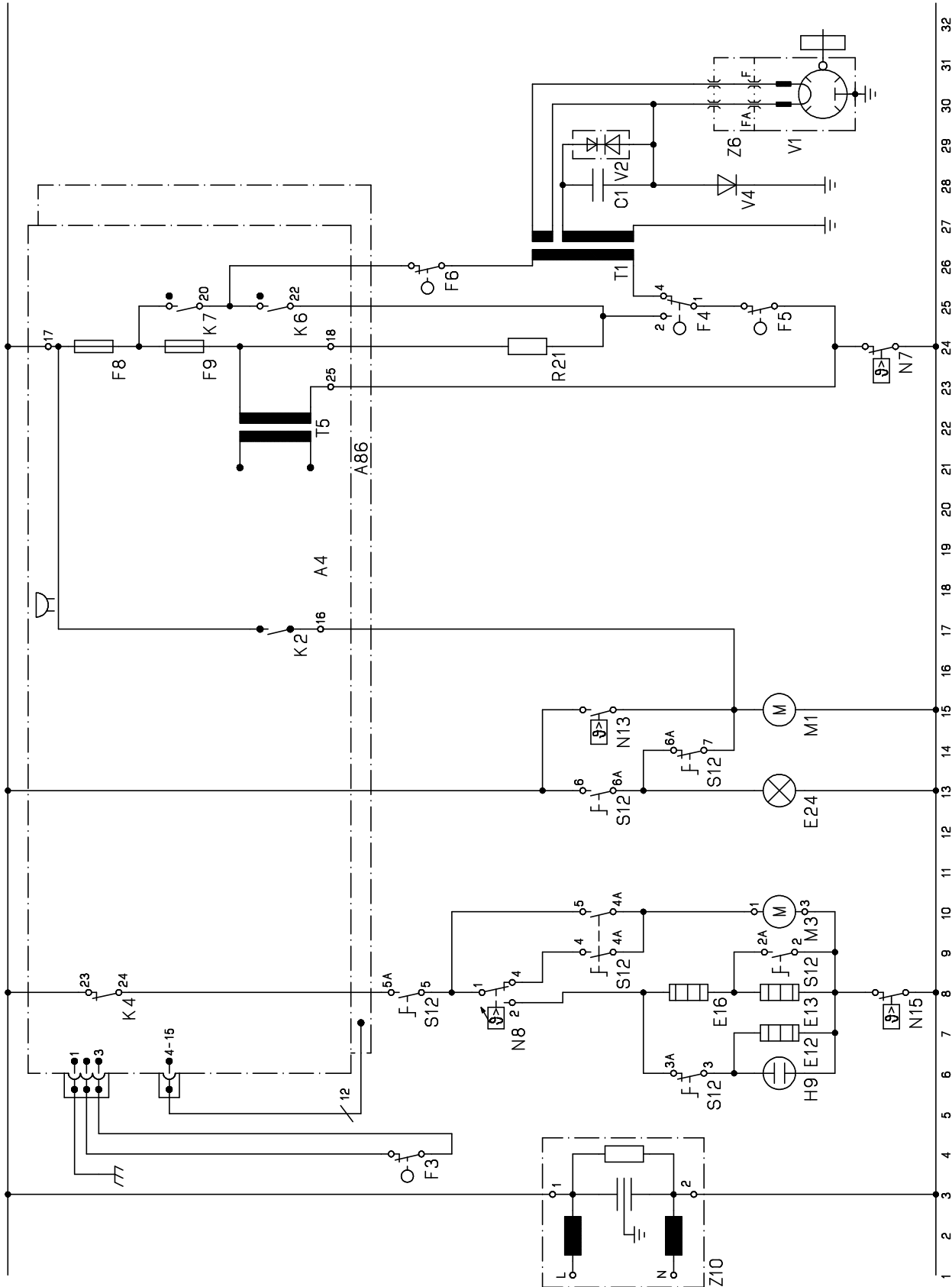


Diagramm:173-76978-001

Sicherheitsschalter bei geschlossener Tür

173-76975-002	18.05.1999
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