

Absorption Refrigerators for Leisure Vehicles

RM 8400 RM 8401 RM 8405 RM 8500 RM 8501 RM 8505 RM 8550 RM 8551 RM 8555
RMS 8400 RMS 8401 RMS 8405 RMS 8460 RMS 8461 RMS 8465 RMS 8500 RMS 8501
RMS 8505 RMS 8550 RMS 8551 RMS 8555 RML 8550 RML 8551 RML 8555 RMSL 8500
RMSL 8501 RMSL 8505 RMD 8501 RMD 8505 RMD 8551 RMD 8555



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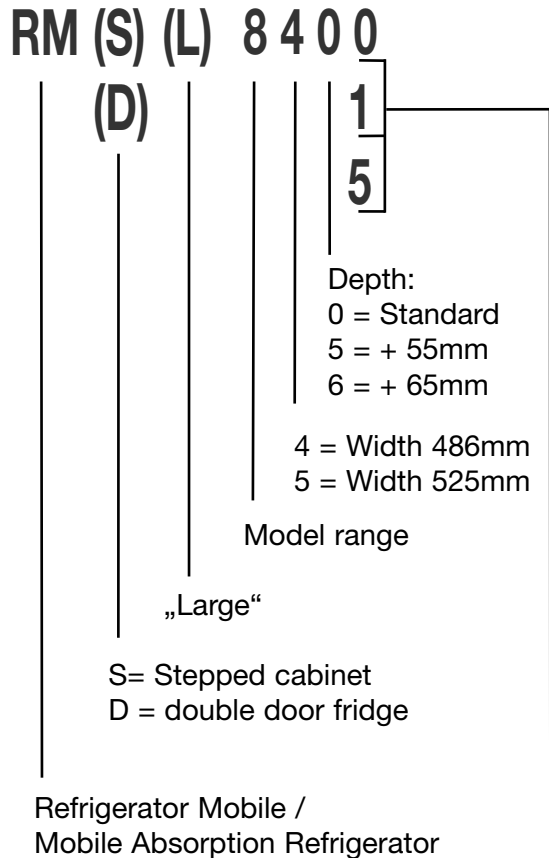
Dometic GmbH
In der Steinwiese 16
D-57074 Siegen

www.dometic.com

1.0 Description of model

1.1 Model identification

Example :



0 = manual energy selection + manual ignition (**battery igniter**)

1 = manual energy selection, automatic ignition (**MES**)

5 = automatic and manual energy selection, automatic ignition (**AES**)

1.2 Refrigerator rating plate

The rating plate is to be found on the inside of the refrigerator. It contains all important details of the refrigerator. You can read off from this the model identification, the product number and the serial number. You will need these details whenever you contact the customer service centre or when ordering spare parts.

| Dometic | | |
|---|--|---|
| TYPE: C 40/110 | CLIMATE CLASS: SN | Barcode |
| MOD. NO. RMS 8400 1 | PROD. NO. 00921084272 2 | SER. NO. 99900165 3 |
| BRUTTOINHALT TOTAL CAP. VOLUME BRUT 80 l 85 l | VERDAMPFERFACH FREEZER COMP. VOLUME COMPT BT 8 l 0 l | NUTZINHALT USEFUL CAP. VOLUME NET 77 l 82 l |
| ~ 230 - 240V / 125 W = 12 V / 120 W | LPG | Qn: 0,252 kW (HS) m: 18,3 g/h |
| 4 | 5 | 13 + 28 - 30/37 13B/P 28 - 30 mbar 13P 37 |
| CE 0063 BL3214 | G30, G31 | p = 30/37 mbar |
| ABSORPTION NH ₃ = 115 g | Ne ₂ C10 = 7,0 g | p max = 35 bar |
| CE 0085 021654 | AP | 2 660 |
| FKW, FCKW FREI / CFC, HCFC FREE | MADE IN GERMANY | 00057364562 |

Fig. 1

- 1** Model number
- 2** Product number
- 3** Serial number
- 4** Electrical rating details
- 5** Gas pressure



Dometic refrigerators are equipped for a connection pressure of **30 mbar**. For connection to a 50 mbar gas system, use **Truma VDR 50/30 medium pressure controller**.

1.3 Technical data

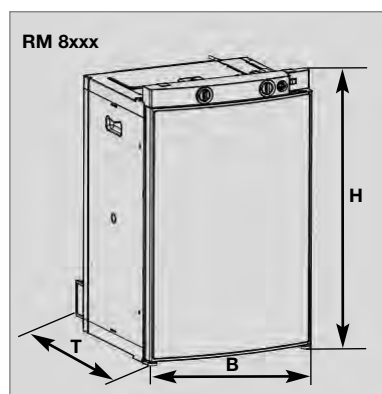


Fig. 2

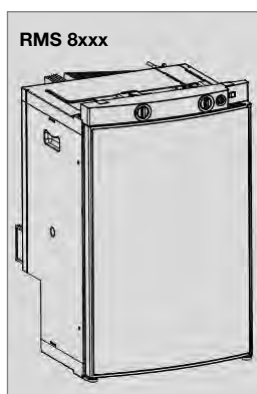


Fig. 3



Fig. 4

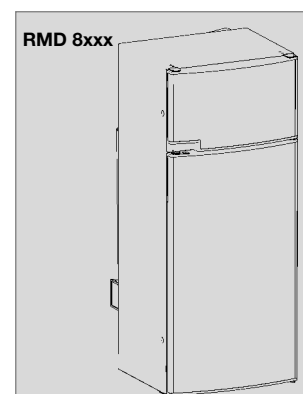


Fig. 5

| Model | Dimensions H x W x D (mm) Depth incl. door | Gross capacity | | Rating details mains/battery | Consumption * electricity/gas over 24hrs | Net weight | Ignition | |
|-----------|--|-----------------------------|----------|---------------------------------|--|---------------|----------|---------|
| | | with freezer compartment | without | | | | Piezo | Automat |
| RMS 8400 | 821x486x568 | 80 / 8 lit. | 85 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 25 kg | • | |
| RMS 8401 | 821x486x568 | 80 / 8 lit. | 85 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 25 kg | | • |
| RMS 8405 | 821x486x568 | 80 / 8 lit. | 85 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 25 kg | | • |
| RM 8400 | 821x486x568 | 90 / 8 lit. | 95 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 27 kg | • | |
| RM 8401 | 821x486x568 | 90 / 8 lit. | 95 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 27 kg | | • |
| RM 8405 | 821x486x568 | 90 / 8 lit. | 95 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 27 kg | | • |
| RMS 8460 | 821x486x633 | 90 / 11 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | • | |
| RMS 8461 | 821x486x633 | 90 / 11 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | | • |
| RMS 8465 | 821x486x633 | 90 / 11 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | | • |
| RMS 8500 | 821x523x568 | 90 / 9 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | • | |
| RMS 8501 | 821x523x568 | 90 / 9 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | | • |
| RMS 8505 | 821x523x568 | 90 / 9 lit. | 96 lit. | 125 W / 120 W | ca.2,5 KWh / 270 g | 26 kg | | • |
| RMS 8550 | 821x523x623 | 103 /12 lit. | 110 lit. | 125 W / 120 W | ca.2,6 KWh / 270 g | 27 kg | • | |
| RMS 8551 | 821x523x623 | 103 /12 lit. | 110 lit. | 125 W / 120 W | ca.2,6 KWh / 270 g | 27 kg | | • |
| RMS 8555 | 821x523x623 | 103 /12 lit. | 110 lit. | 125 W / 120 W | ca.2,6 KWh / 270 g | 27 kg | | • |
| RM 8500 | 821x523x568 | 100 / 9 lit. | 106 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 28 kg | • | |
| RM 8501 | 821x523x568 | 100 / 9 lit. | 106 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 28 kg | | • |
| RM 8505 | 821x523x568 | 100 / 9 lit. | 106 lit. | 135 W / 130 W | ca.2,4 KWh / 270 g | 28 kg | | • |
| RM 8550 | 821x523x623 | 115 /12 lit. | 122 lit. | 135 W / 130 W | ca.2,6 KWh / 270 g | 30 kg | • | |
| RM 8551 | 821x523x623 | 115 /12 lit. | 122 lit. | 135 W / 130 W | ca.2,6 KWh / 270 g | 30 kg | | • |
| RM 8555 | 821x523x623 | 115 /12 lit. | 122 lit. | 135 W / 130 W | ca.2,6 KWh / 270 g | 30 kg | | • |
| RML 8550 | 1245x525x625 | 179 /33 lit. | 189 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 45 kg | • | |
| RML 8551 | 1245x525x625 | 179 /33 lit. | 189 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 45 kg | | • |
| RML 8555 | 1245x525x625 | 179 /33 lit. | 189 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 45 kg | | • |
| RMSL 8500 | 1245x525x568 | 145 /28 lit. | 155 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 40 kg | • | |
| RMSL 8501 | 1245x525x568 | 145 /28 lit. | 155 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 40 kg | | • |
| RMSL 8505 | 1245x525x568 | 145 /28 lit. | 155 lit. | 190 W / 170 W | ca.3,2 KWh / 380 g | 40 kg | | • |
| RMD 8501 | 1245x525x567 | 160 /30 lit. | ----- | 190 W / 170 W | ca.3,2 KWh / 380 g | 40 kg | | • |
| RMD 8505 | 1245x525x567 | 160 /30 lit. | ----- | 190 W / 170 W | ca.3,2 KWh / 380 g | 40 kg | | • |
| RMD 8551 | 1245x525x622 | 190 /35 lit. | ----- | 190 W / 170 W | ca.3,2 KWh / 380 g | 41.5 kg | | • |
| RMD 8555 | 1245x525x622 | 190 /35 lit. | ----- | 190 W / 170 W | ca.3,2 KWh / 380 g | 41.5 kg | | • |

Subject to technical changes.

RMS = stepped cabinet

*Average consumption measured at an average ambient temperature of 25°C in pursuance of ISO Standard

1.4 Description of refrigerator

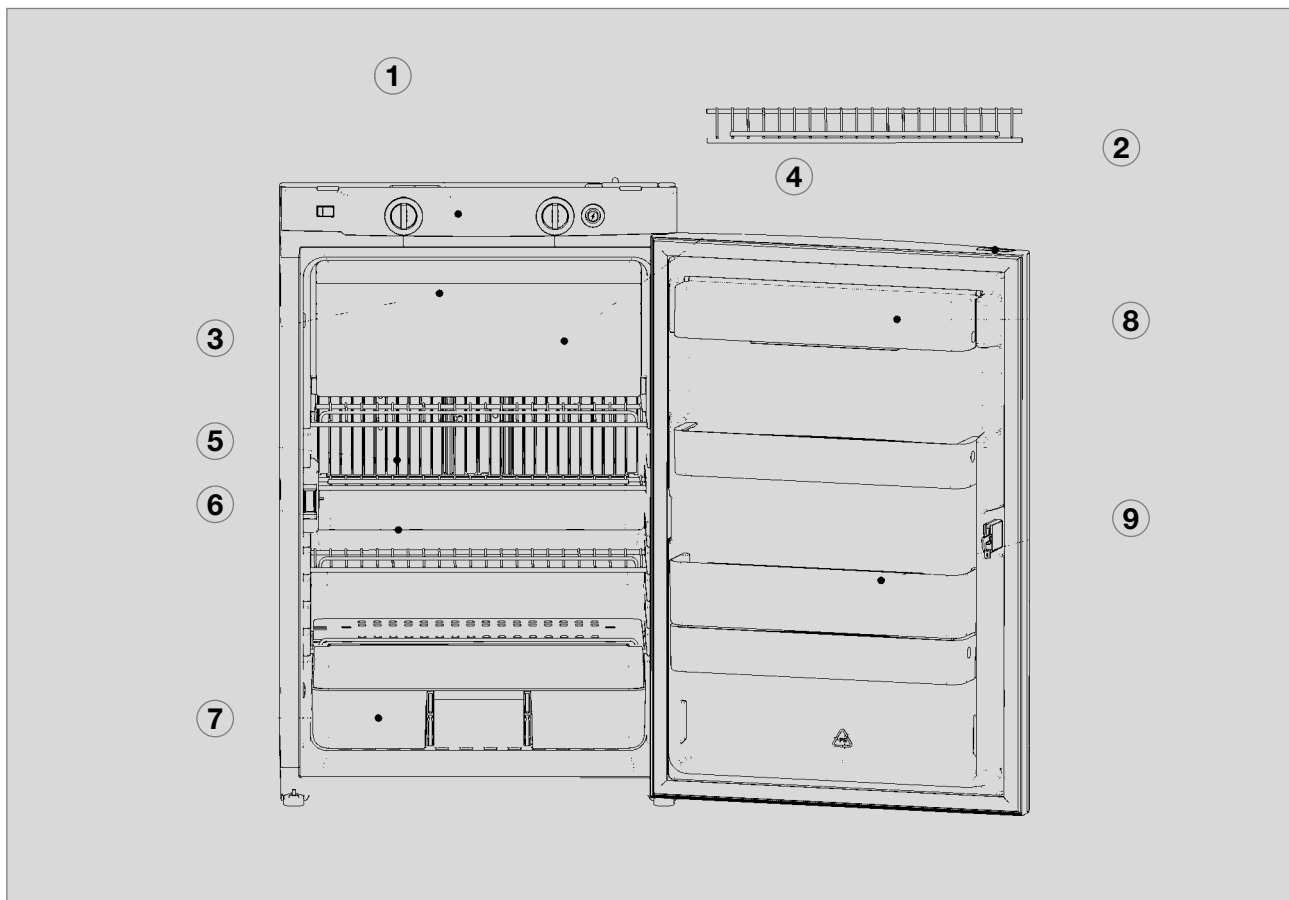


Fig. 6

- ① Operating controls
- ② Door locking button
- ③ Freezer compartment (removable)
- ④ Insertable grid shelf (available as option, to be used when freezer compartment is removed)
- ⑤ Post-evaporator for cooling compartment
- ⑥ Condensation water drain channel
- ⑦ Vegetable bin
- ⑧ Upper door shelf with flap, egg shelf available as option may be inserted
- ⑨ Lower door shelf with bottle holders

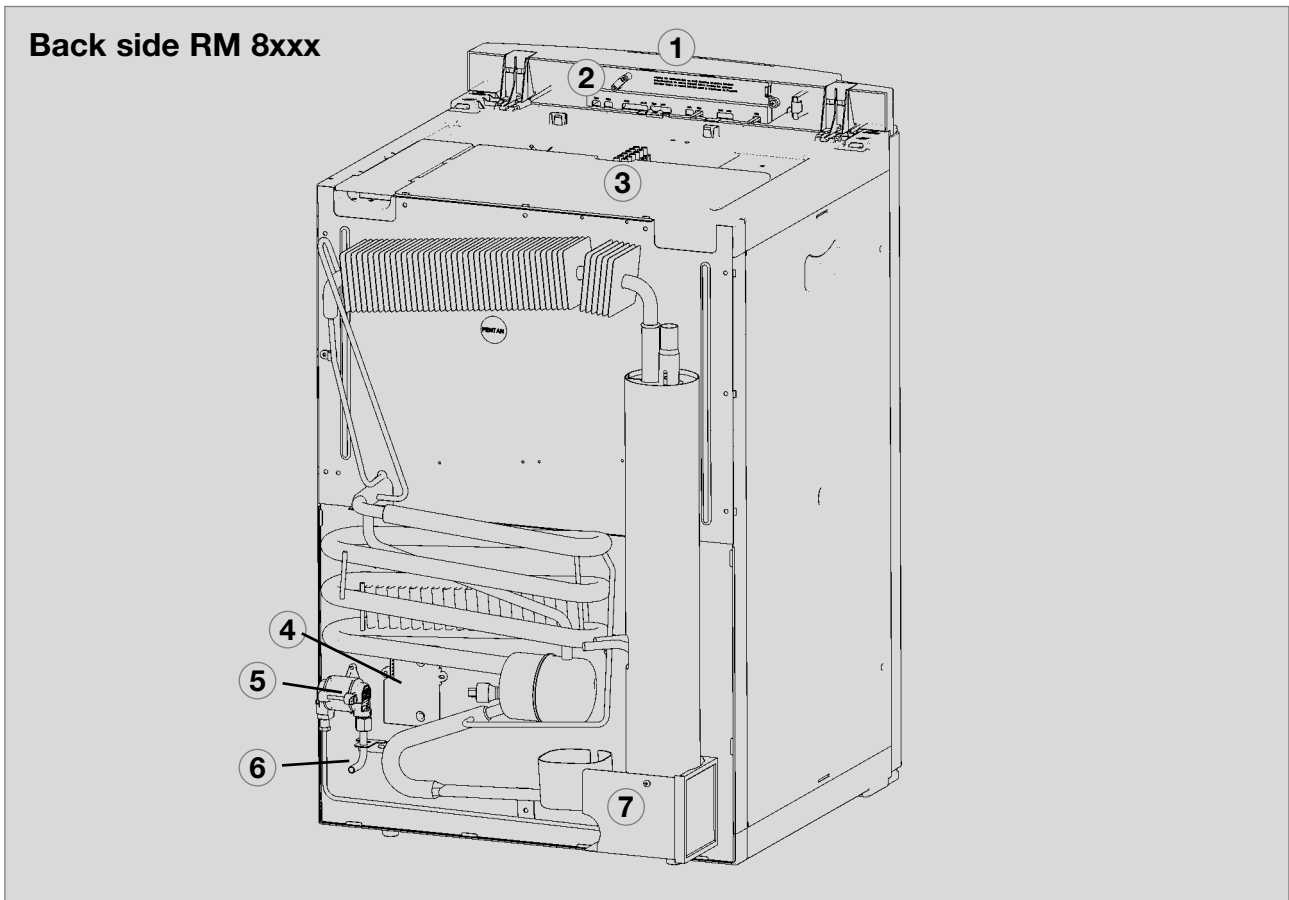


Fig. 7

- ① Power module (electronics)
- ② 230V-connection directly to power module
- ③ Terminal strip for 12VDC supply
- ④ Burner control device
- ⑤ Gas valve
- ⑥ Main connection gas supply
- ⑦ Gas burner (behind cover)

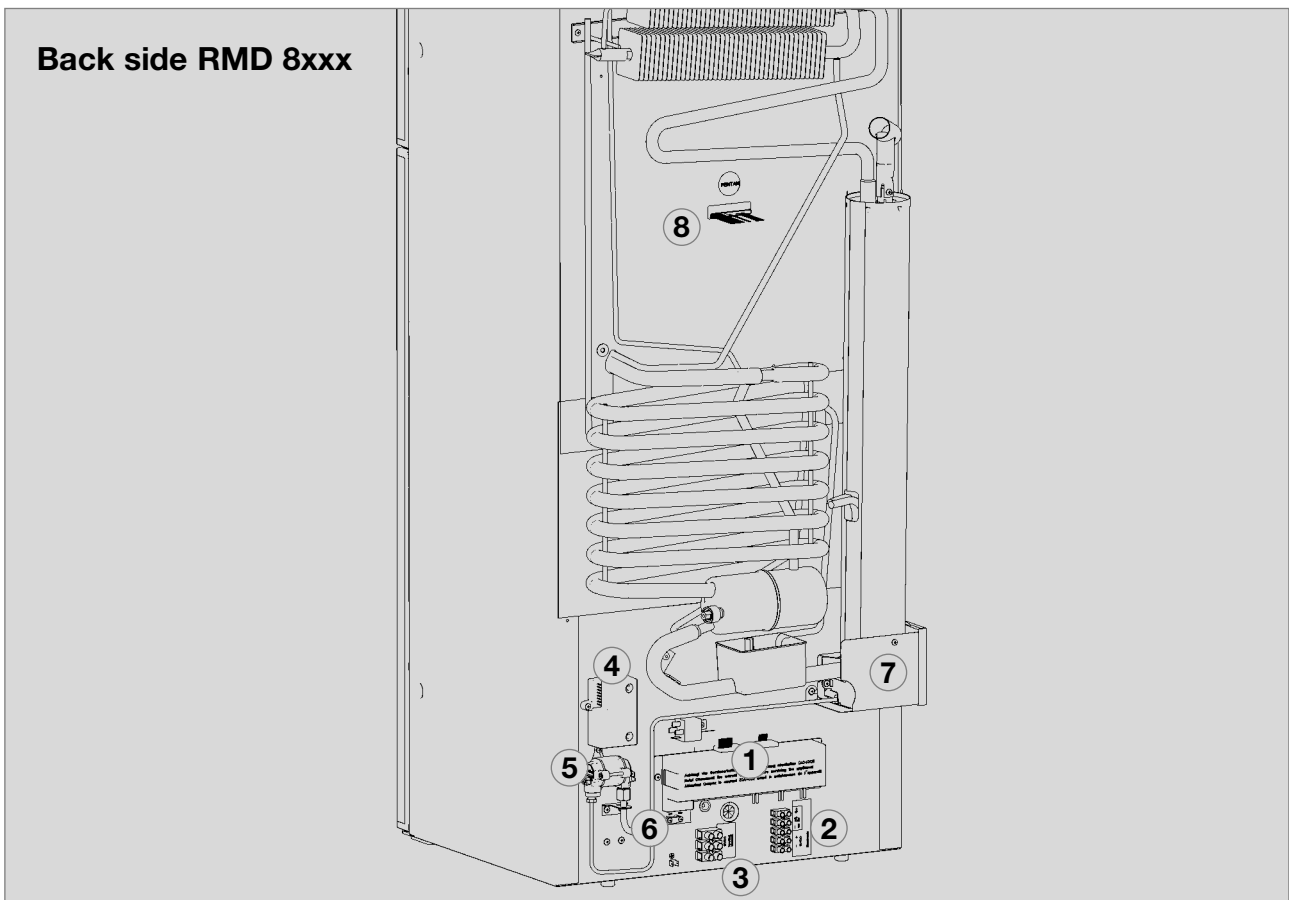


Fig. 8

- ① Power module (electronics)
- ② 230V-connection directly to power module
- ③ Terminal strip for 12VDC supply
- ④ Burner control device
- ⑤ Gas valve
- ⑥ Main connection gas supply
- ⑦ Gas burner (behind cover)
- ⑧ Cable to operating panle (front side)

1.5 Terminal block

RM 8xxx

Connections:

- A** = Ground heating element DC
- B** = Plus heating element DC
- C** = Ground electronics
- D** = Plus electronics

- D+** = alternator signal
- S+** = AES-input-control signal (solar charge regulator)

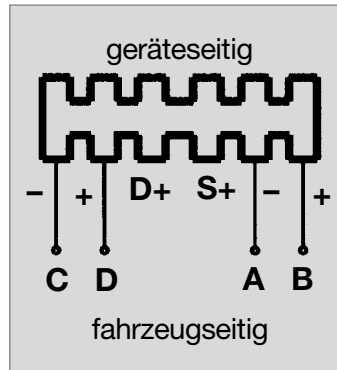


Fig. 9

RMD 8xxx

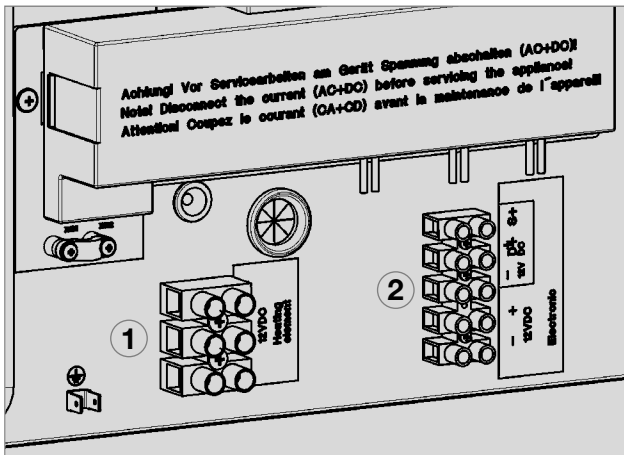


Fig. 10

- 1** A = Plus heating element DC
B = Ground heating element DC
- 2** C = Ground electronics
D = Plus electronics
D+ = alternator signal
S+ = AES-input-control signal (solar charge regulator)

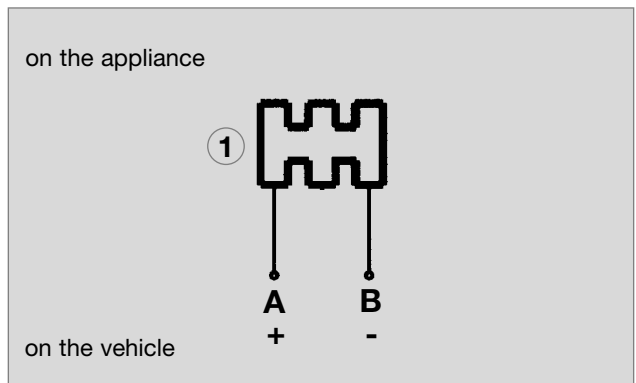


Fig. 11

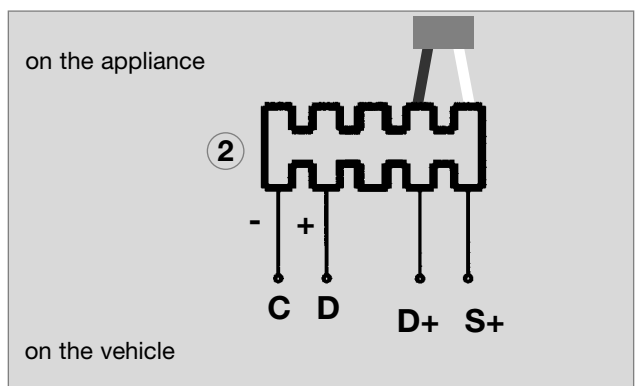


Fig. 12

1.6 General

- Fridges of the 8-series with manual ignition are provided with a battery igniter and a Gas-Operation-Indicator (Galvanometer).
- For using the locking button, the panel is formed asymmetric (recess on one side). I.e. changing the door rabbet is not possible any more. The rabbet has to be determined before the fridge is installed.
The product number controls the side of the door rabbet. Please notify this, if the door or the fridge is exchanged!
- At all RM 8xxx models the door seal is exchangeable.

Additional features MES / AES

- If the door is open, the interior lighting is switched off automatically after 2 minutes.
- 10 seconds after the button has been pushed for the last time, the indication (LED) switches into the dim-mode. The dim-mode is reversed by pushing a button. The desired function is activated by pushing the button again.
- Failures are indicated by flashing of the failure indicator LED..

Additional features AES

- Should the door be kept open for too long (more than 2 minutes), an acoustic signal is initiated (pulsing whistle tone).
- Should the electronic control detect any failure, an acoustic signal will sound (pulsing whistle tone) for 60 seconds .

Additional features RMD 8xxx

- Failures are indicated by flashing of the red external failure indicator LED.
- Should the door be kept open for too long (more than 2 minutes), the blue external LED starts flashing until the door is closed.
- **Only with AES models RMD 8xx5 :**
Should the electronic control detect any failure, an acoustic signal will sound (pulsing whistle tone) for 30 seconds (. It is repeated every hour, if the failure ist not resolved.



A description of the components of RM 8xx0 (piezo) models can be found in the instruction 599 5175-18 EN (RM 7xxx models).

1.7 Explanation of operating controls

Manual energy selection / manual ignition (RM 8xx0) battery igniter:



Fig. 13

Manual energy selection / automatic ignition (RM 8xx1) MES:

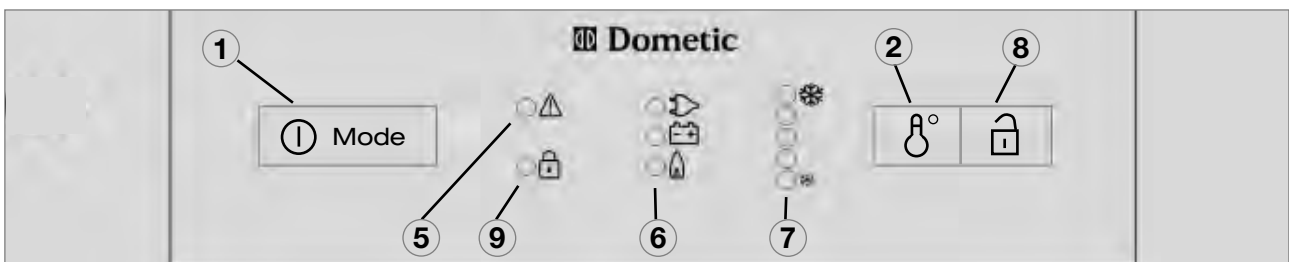


Fig. 14

Automatic energy selection / automatic ignition (RM 8xx5) AES:



Fig. 15

Manual energy selection / automatic ignition (RMD 8xx1) MES:

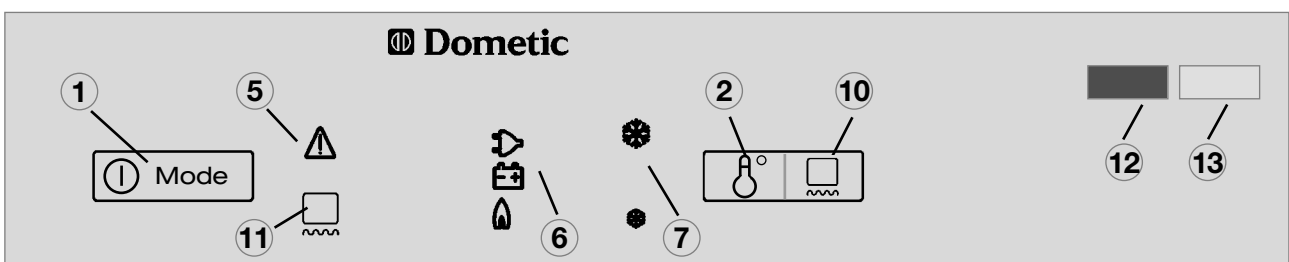


Fig. 16

i Indication of operating status at AES model with 7-segment display

- | | |
|--|--|
| <ul style="list-style-type: none"> 1 Power On switch / Energy selector switch 2 Temperature selection 3 PIEZO-ignition (battery igniter) 4 Flame indicator (galvanometer) (PIEZO-models) 5 Indicator LED failure 6 Indikator-LED / operating mode display 7 Temperature level display | <ul style="list-style-type: none"> 8 Door opening (only when equipped with electrical door lock)) 9 Indicator LED door lock (optional) 10 Power On switch frame heating 11 Indicator LED frame heating 12 External display Failure (red) 13 External display Appliance in operation (blue) |
|--|--|

2.0 Components

2.1 Power modules

2.1.1 Power module RM 8xx1 (MES)

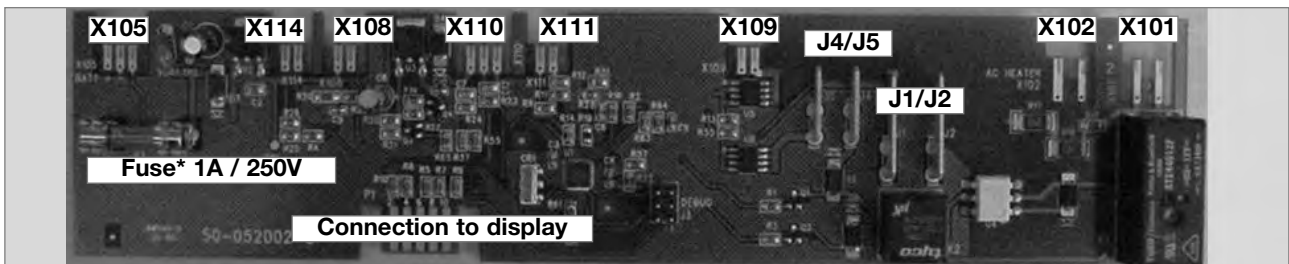


Fig. 17

- X105 = 12 V Supply / - Wiring Recognition of heating element
- X114 = Reed switch or alt. electr. lock
- X108 = Temperature sensor (NTC)
- X110 = Connection burner control device (+/-, failure)
- X111 = alt. 2. electr. Lock or reed switch
- X109 = Lighting
- J4/J5 = Frame heating
- J1 = +12 V IN for heating element
- J2 = +12 V Heating element
- X102 = Heating element mains power
- X101 = mains power inlet

*Fuse 12V

2.1.2 Power module RM 8xx5 (AES)

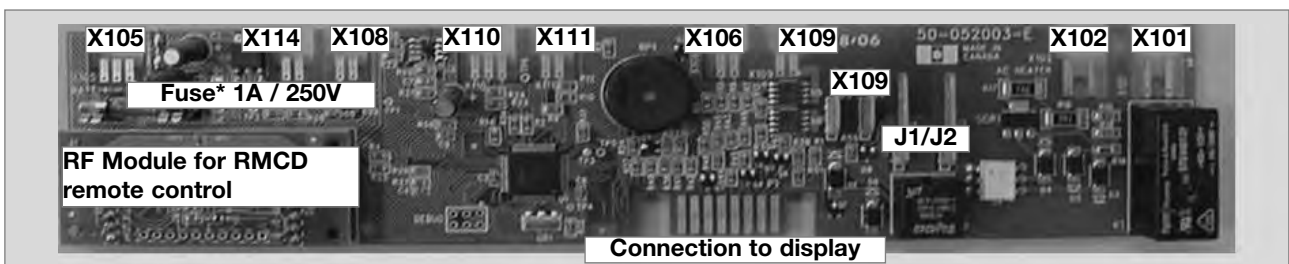


Fig. 18

- X105 = 12 V Supply / - Wiring Recognition of heating element
- X114 = Reed switch or alt. electr. lock
- X108 = Temperature sensor (NTC)
- X110 = Connection burner control device (+/-, failure)
- X111 = alt. 2. electr. Lock or reed switch
- X109 = Lighting
- J4/J5 = Frame heating
- J1 = +12 V IN for heating element
- J2 = +12 V Heating element
- X102 = Heating element mains power
- X101 = mains power inlet

*Fuse 12V

2.1.3 Power module RMD 8xx1 (MES)

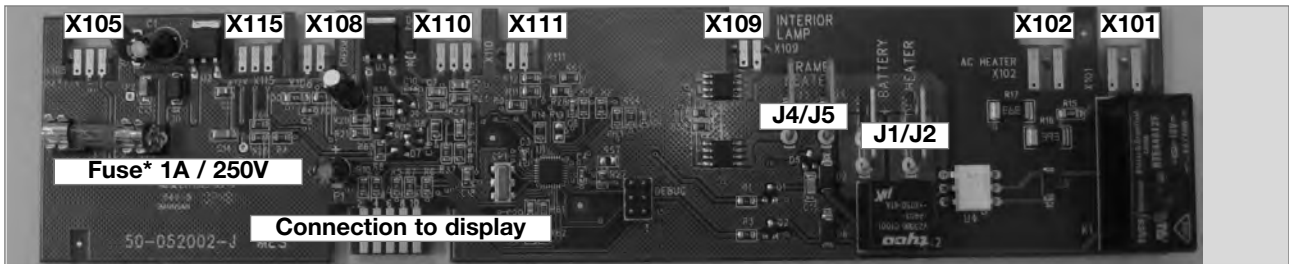


Fig. 19

- X105 = 12 V Supply / - Wiring Recognition of heating element
 - X115 = 3 pin connection from display moduls to external LEDs (operating display)
 - X108 = Temperature sensor (NTC)
 - X110 = Connection to burner control device (+/-, failure)
 - X111 = Door switch for interior light
 - X109 = Interior light
 - J4/J5 = Frame heating
 - J1 = +12 V IN for heating element
 - J2 = +12 V Heating element
 - X102 = Heating element mains power
 - X101 = Mains power inlet
- *Fuse12V

2.1.4 Power module RMD 8xx5 (AES)

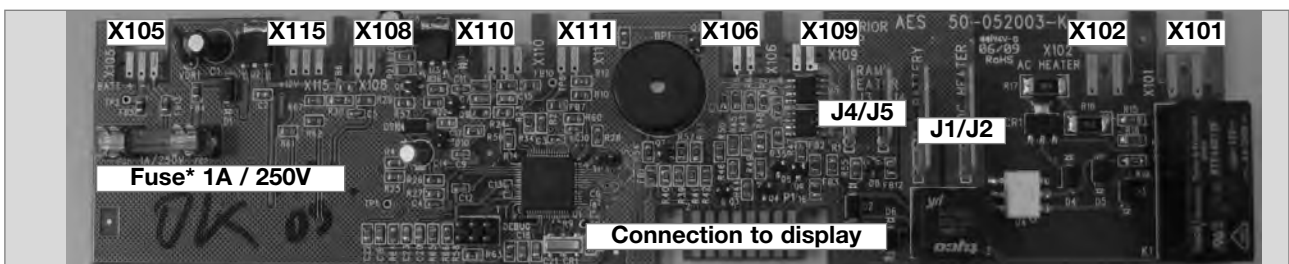


Fig. 20

- X105 = 12 V Supply / - Wiring Recognition of heating element
 - X115 = 3 pin connection from display moduls to external LEDs (operating display)
 - X108 = Temperature sensor (NTC)
 - X110 = Connection to burner control device (+/-, failure)
 - X111 = Door switch for interior light
 - X106 = D+/Solar+ - connection
 - X109 = Interior light
 - J4/J5 = Frame heating
 - J1 = +12 V IN for heating element
 - J2 = +12 V Heating element
 - X102 = Heating element mains power
 - X101 = Mains power inlet
- *Fuse 12V



Differences to MES/AES RM 8xxx:
X114 no electrical door lock
X115 new, connection for external LED

RF function eliminated on AES board

2.1.5 Operating principle

The electronics regulates the function of the components according to the selected energy, e.g. power supply for the heating elements. In addition the AES-power module ensures the operating with the optimal energy source according to the priority "230V AC - 12V DC - GAS". It also controls the low voltage operation at 230V AC (no low voltage op. at 12V DC mode), and the "refuelling stop function" as well. The temperature sensor and interior light are also controlled by the electronics. The power module is protected with 1A fuse for 12 VDC.

No low-voltage-control during 12V mode at **RMD**-models.

Differences power module RMD 8xxx to RM 8xxx

- Controls are hidden behind the door; integrated between freezer and cooling compartment. Status is shown by blue LED (fridge working) and red LED (error).
- In Auto Mode "AES" is shown on the display (instead of "AU").
- No electrical doorlock available.
- Frame heater activation via right button.
- Automatic switch off of the frame heater after 2 hours.
- Acoustic alarm limited to 1 minute, but repeated every hour (if error has not been reseted)
- **Powermodul mounted on the lower back.** Access via lower ventilation grid.



The functionality of RMD 8xxx models will also be valid for RM 8xx1 and RM 8xx5 models probably starting with season 2010.

2.2 Temperature sensor NTC

NTC - table of resistances

| Temperature °C | Resistance in kOhm |
|----------------|--------------------|
| 0 | 27.70 |
| 5 | 22.29 |
| 10 | 18.07 |
| 15 | 14.74 |
| 20 | 12.11 |
| 25 | 10.00 |

Measuring points:

electronics / power module
loosen contacts X108
cable white / brown

In case of a defective sensor, the fridge operates in intervals (45 min. ON; 14 min OFF).

2.3 Burner Control device P810

- activates ignition
- flame control and flame failure device
- controles gas valve (closes valve if failure oc cure)

Power supply : ca. 1.5 V (only measurable if no failure exists)

Measuring points : Flat plug
between Pin 6 and Pin 7

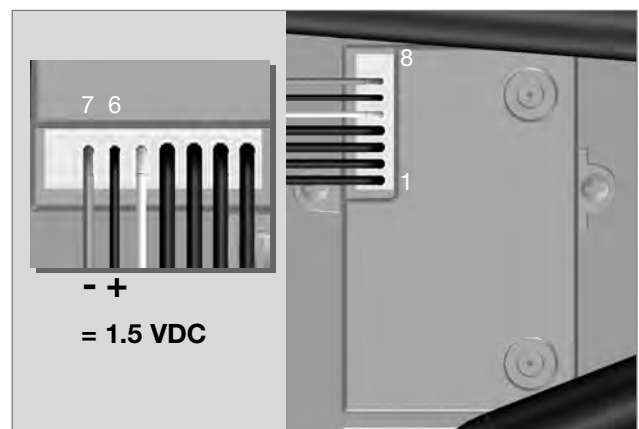


Fig. 21

2.4 Gas valve GV 100

This component includes two gas valves in serial mounting (as part of gas safety device).

voltage supply : per valve approx. 0,7V - 0,9V (switched on gas mode)

inductive resistance : per valve approx. 48-50 Ohm

Measuring points: voltage and resistance
 valve 1: Pin 1 – ground
 valve 2: Pin 2 – ground

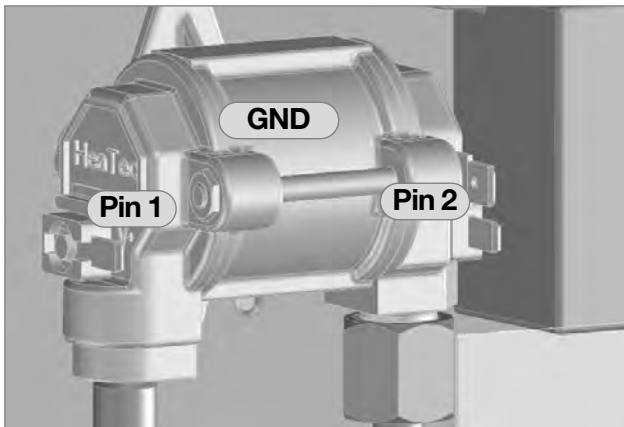


Fig 22

2.5 Gas burner

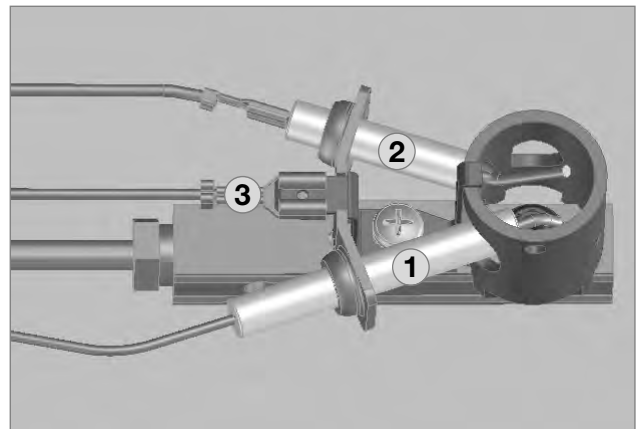


Fig 23

- ① Ignition electrode
- ② Ionisation electrode
- ③ Ground (connection to burner control device)

2.5.1 Cleaning of burner

The burner and the chimney must be cleaned regularly, at least one time a year.

If **Autogas** is used, Dometic recommends a maintenance every half year, as the contamination risk of the burner is higher, due to the burning of the auto gas.



A listing of burners and jets can be found in chpt. 6.1 .

2.6 Interior light and Door Lock

The Interior light and the door lock are unit, which is exchanged completely in case of a defect. The transparent cover is not included, but a separate part. After removing the cover, the lighting housing can be dismantled.

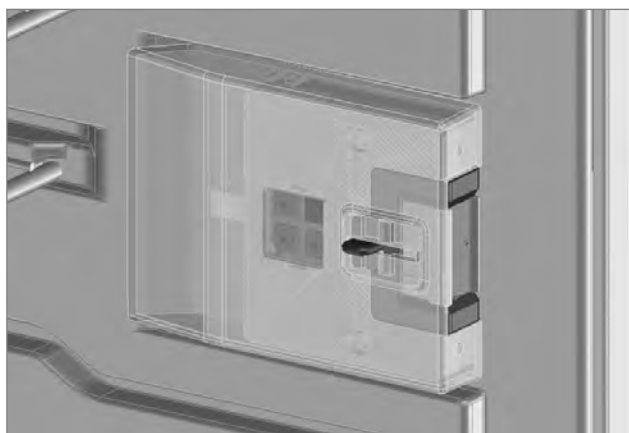


Fig. 24

The locking bar inside the door is fixed with two screws, which are behind a plastic cover.



Fig. 25

Electrical door lock (option)

As an option an electrical door lock was available which locks the door automatically while the engine is running. With switched off engine the door is kept shut by a magnetic sealing, but not locked.

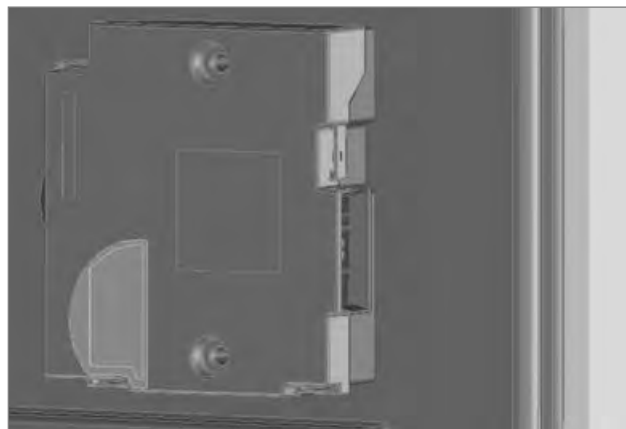


Fig. 26

Recognising interior light and door lock (until 2010)

Interior light and door lock are recognised by a door switch. The door switch is mounted behind the fascia.

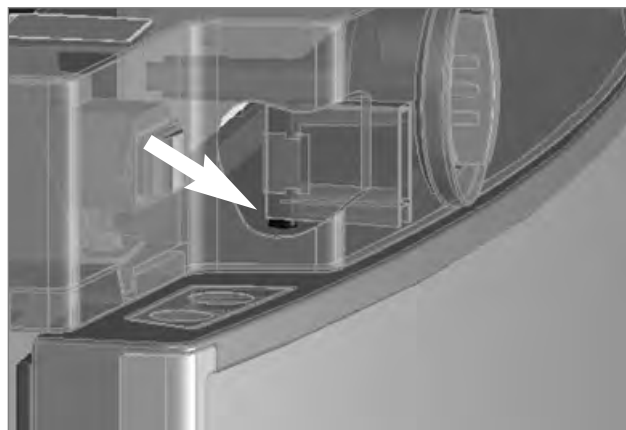


Fig. 27

Recognising interior light and door lock (starting I/2010), all models RM 8xxx and RMD 8xxx

The door opening is recognised by a micro switch **1** in the door lock housing.

Door closed = contact open
Door open = contact closed

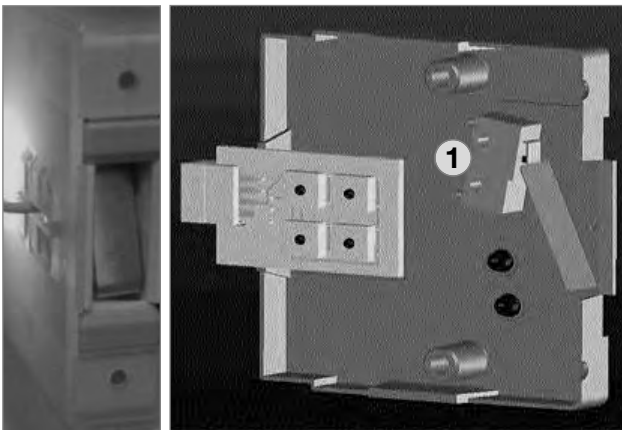


Fig. 28

Connection details LED-PCB

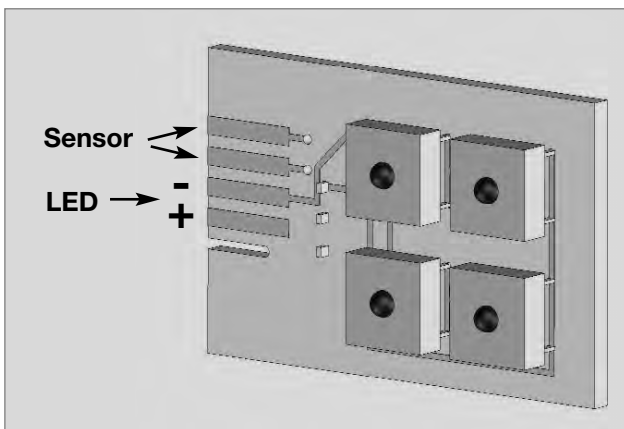


Fig. 29

3.0 Wiring diagrams

3.1 RM 8xx0 / RMS 8xx0

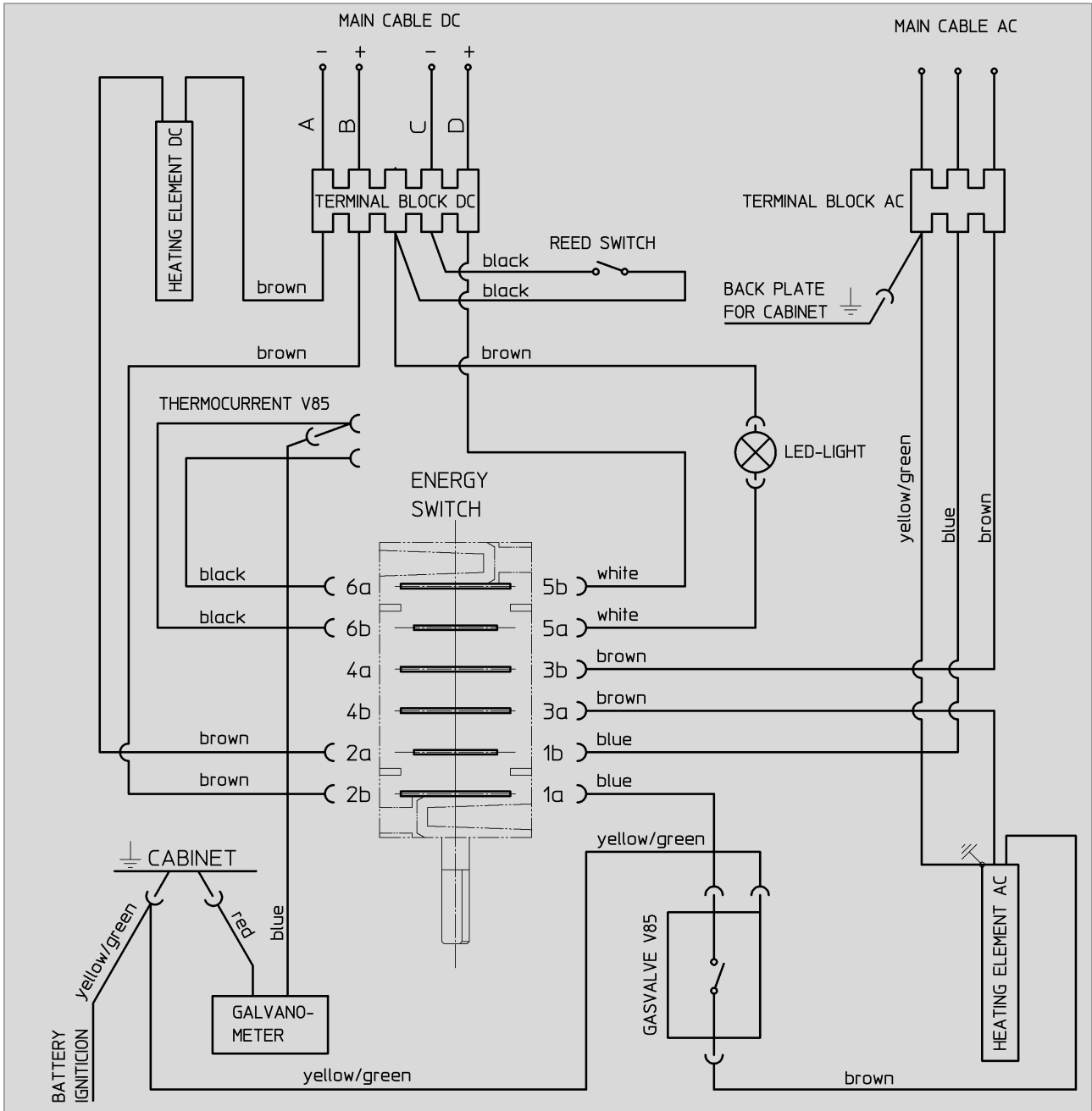


Fig. 30

3.2 RM 8xx1 / RMS 8xx1

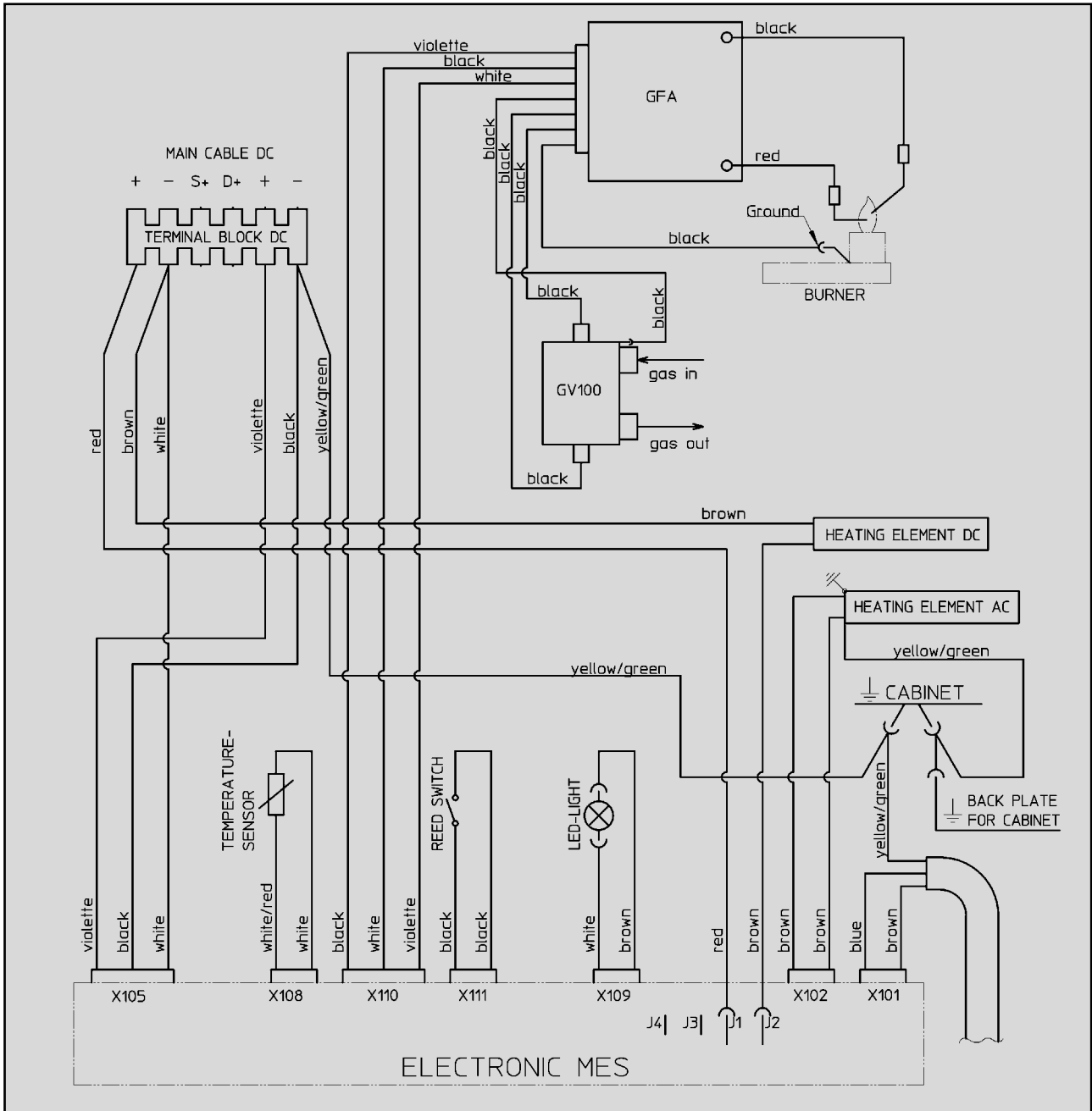


Fig. 31

3.3 RM 8xx5 / RMS 8xx5

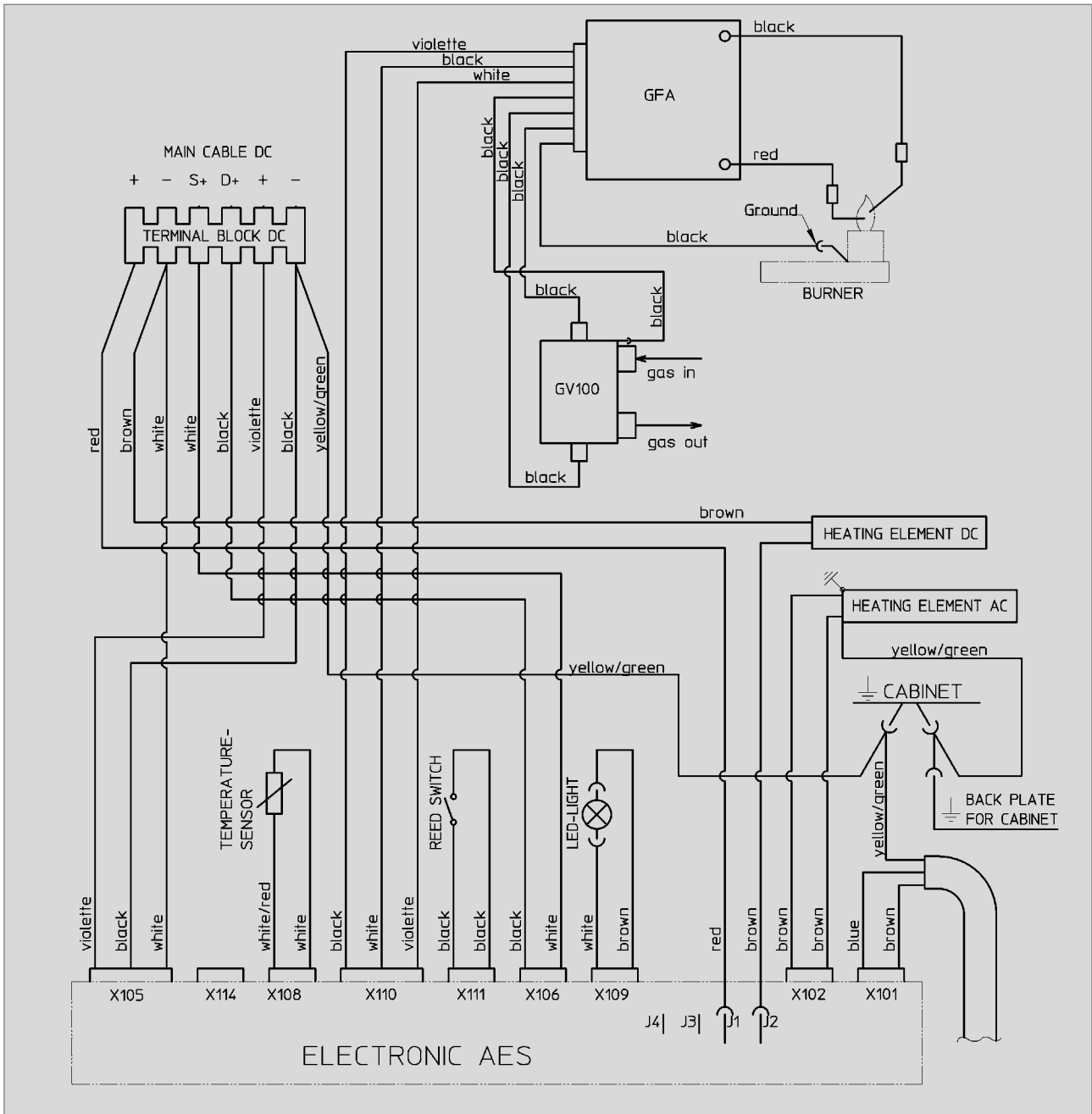


Fig. 32

3.4 RM 8xx5 with electrical door lock

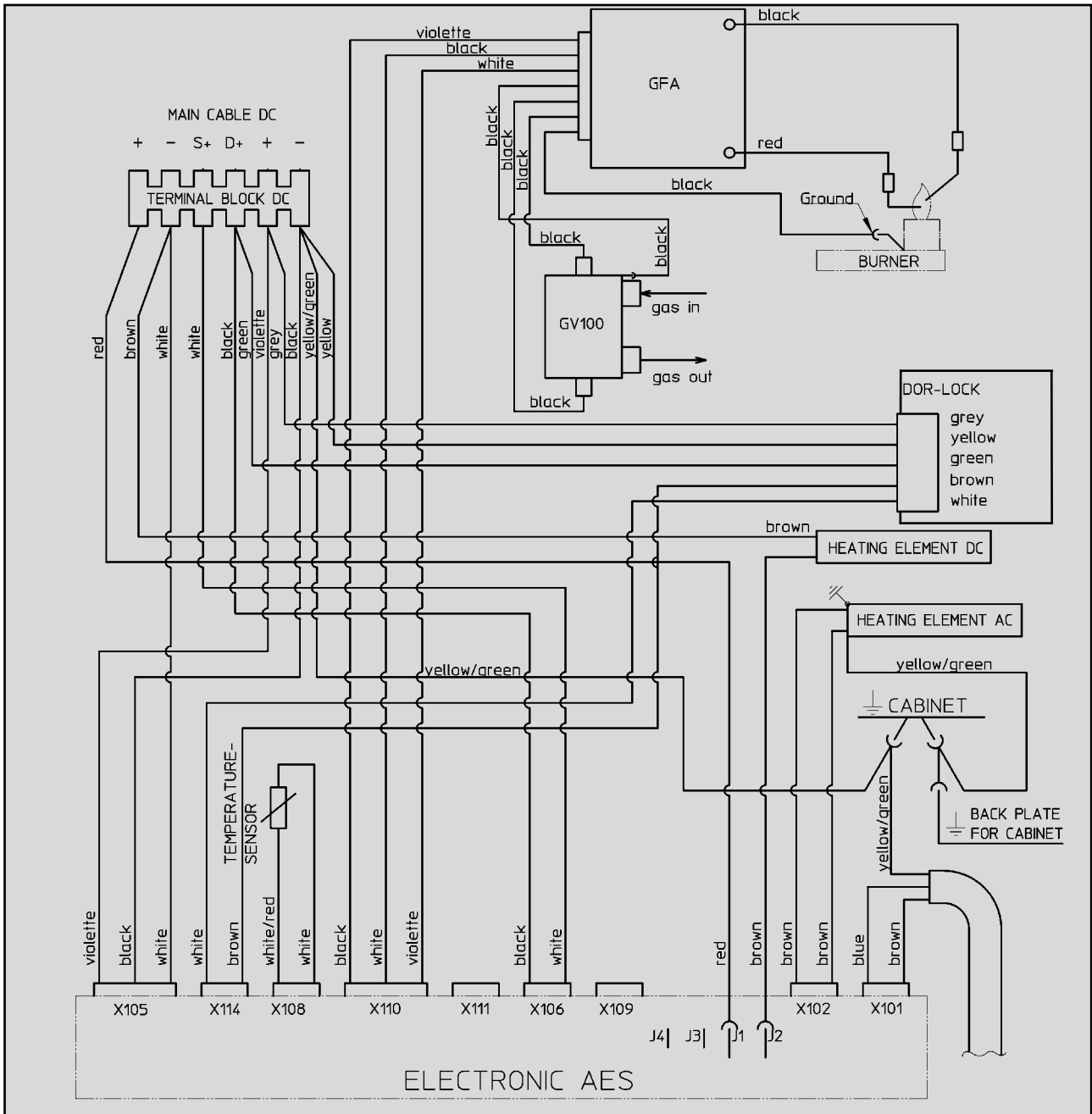


Fig. 33

3.5 RML 8xx0 / RMSL 8xx0

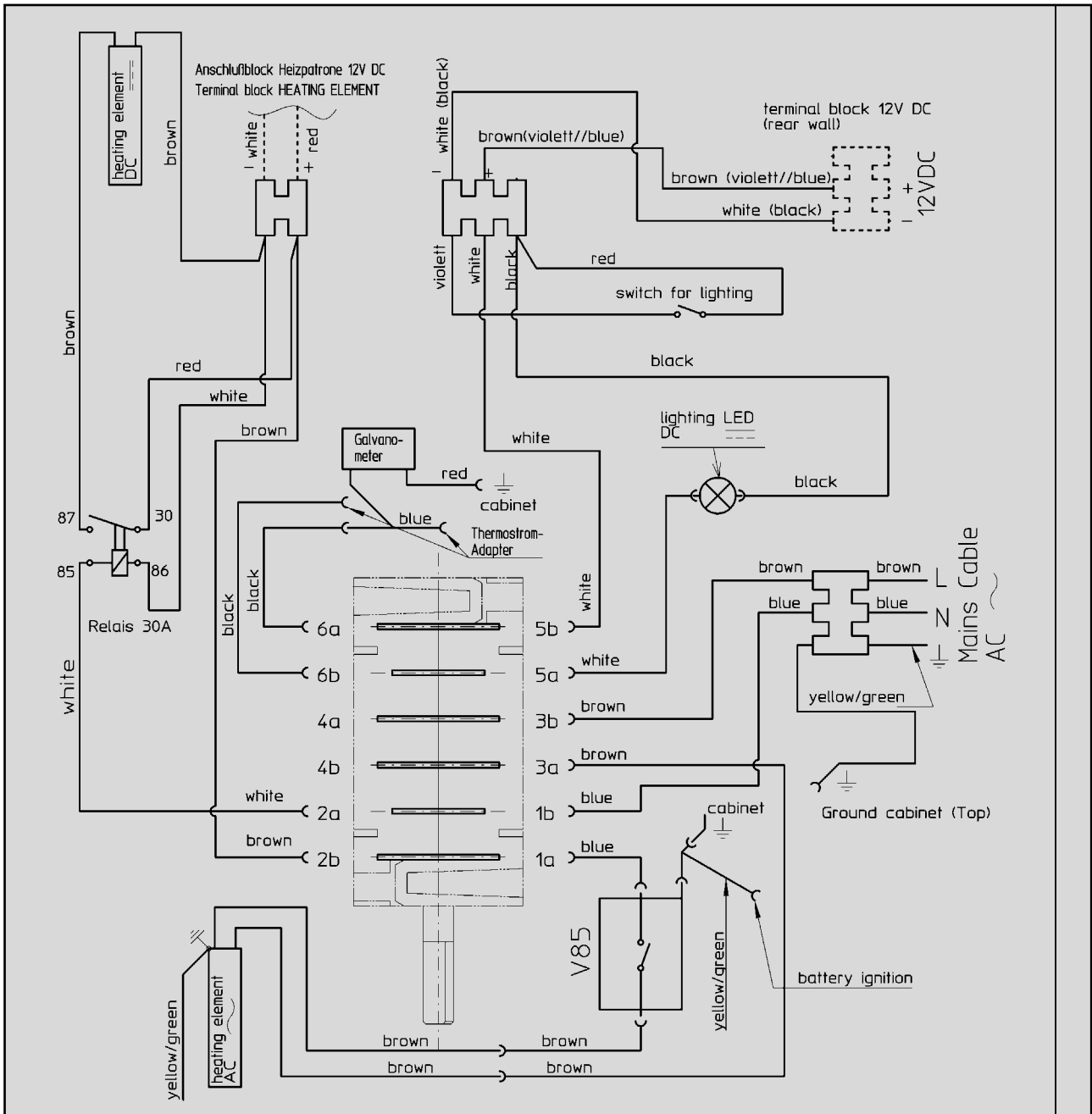


Fig. 34

3.6 RML 8xx1 / RMSL 8xx1

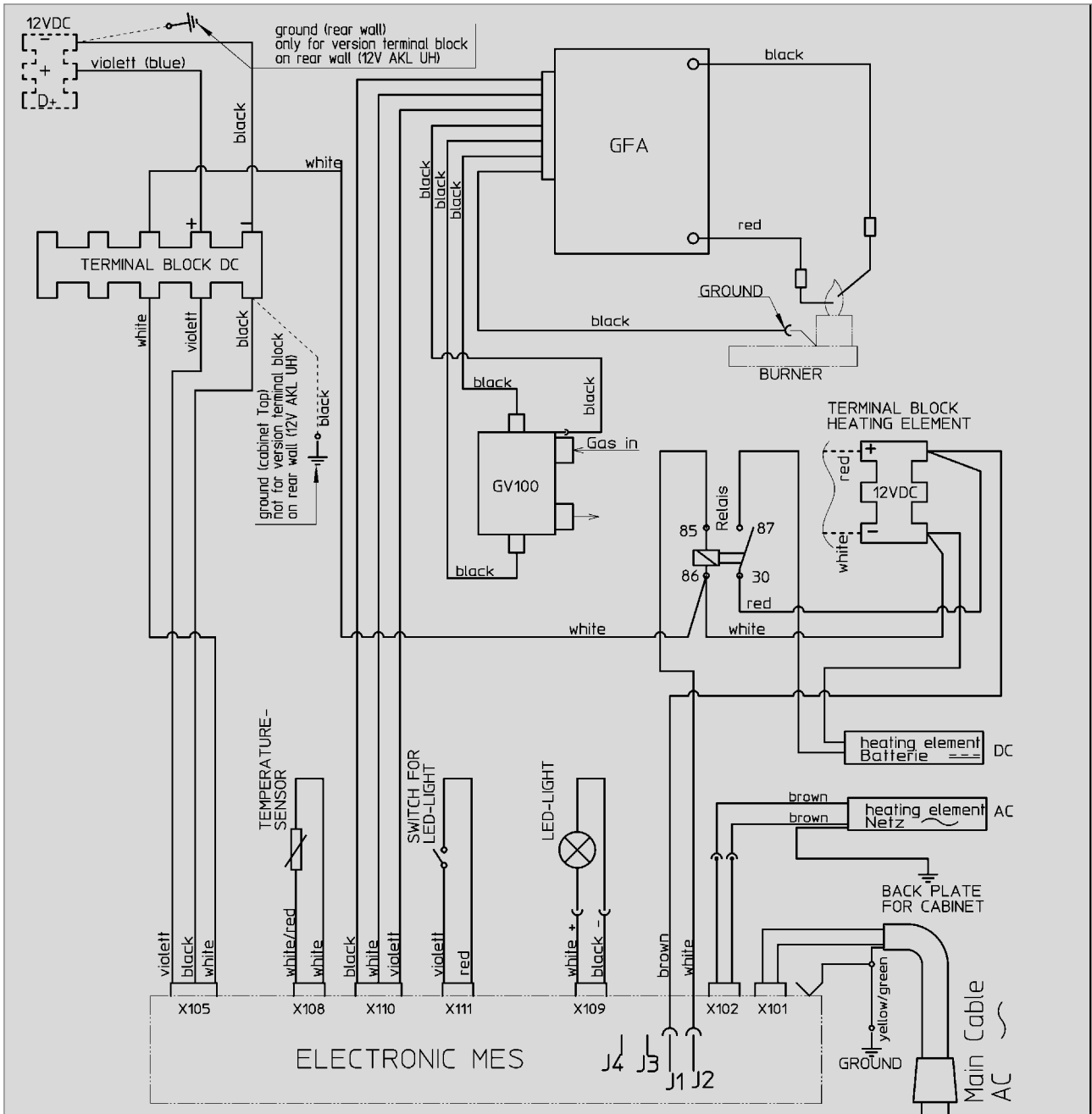


Fig. 35

3.7 RMSL 8xx5 / RMD 8xx5

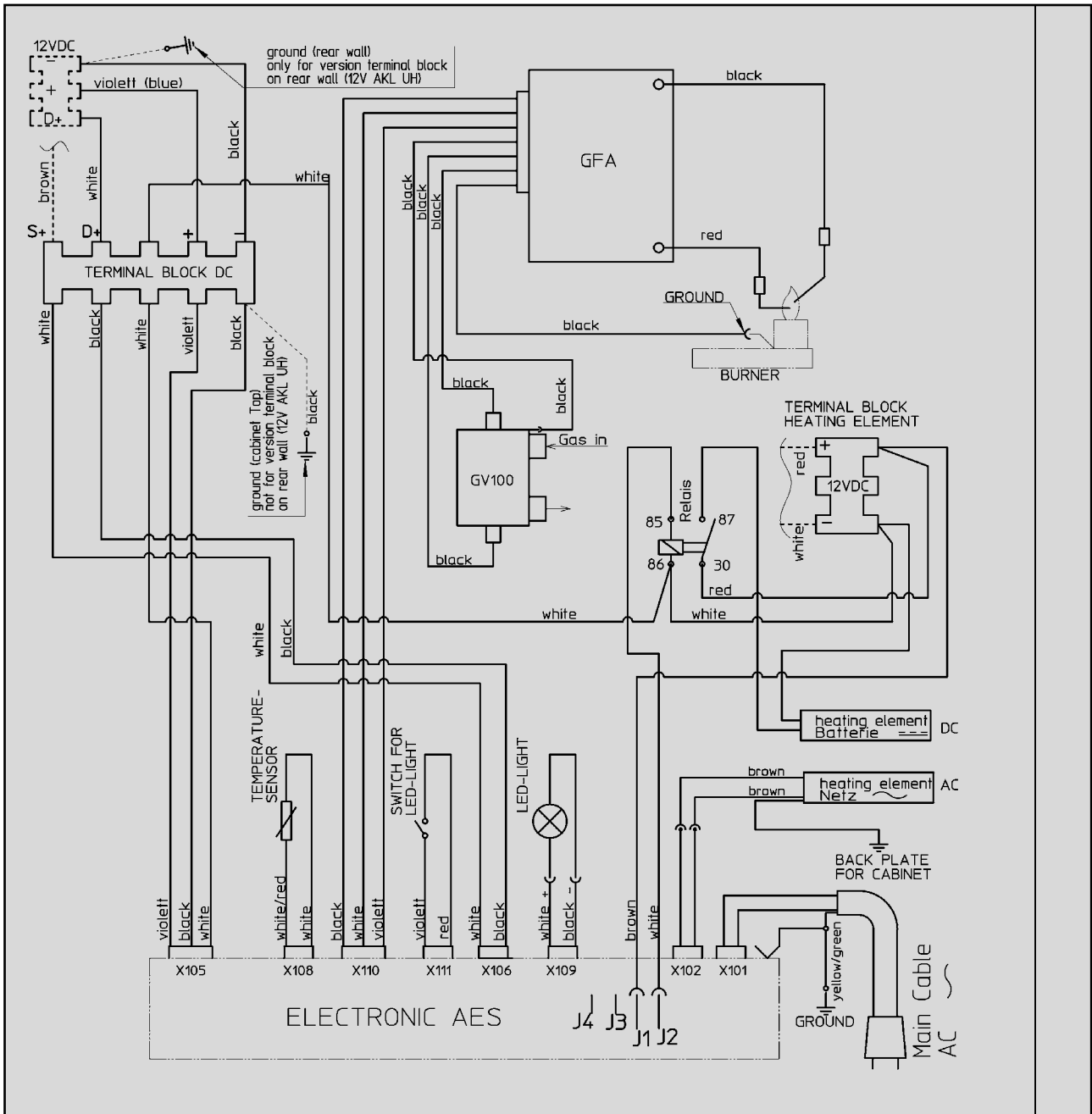


Fig. 36

3.8 RMD 8xx1

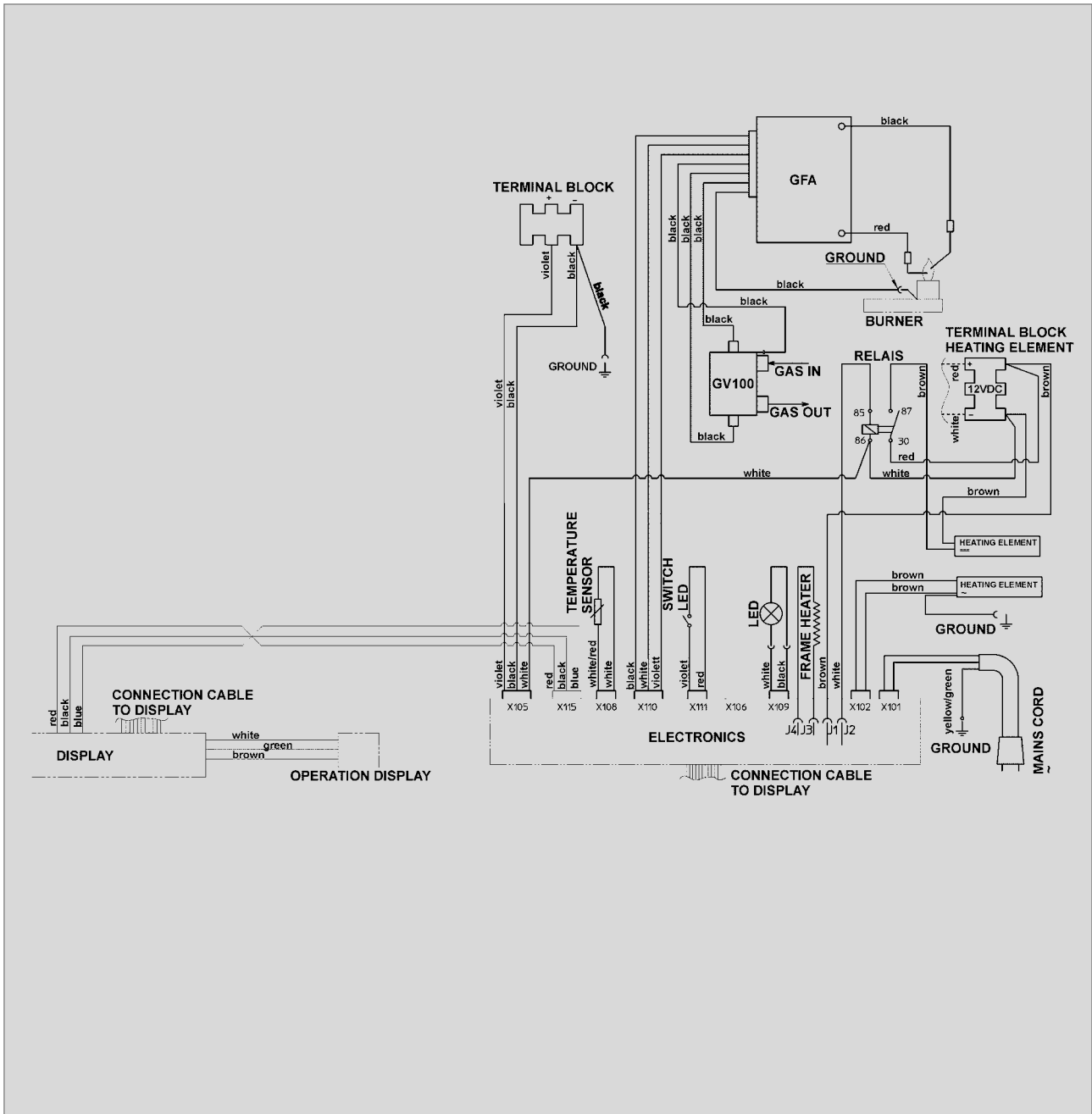


Fig. 37

3.9 RMD 8xx5

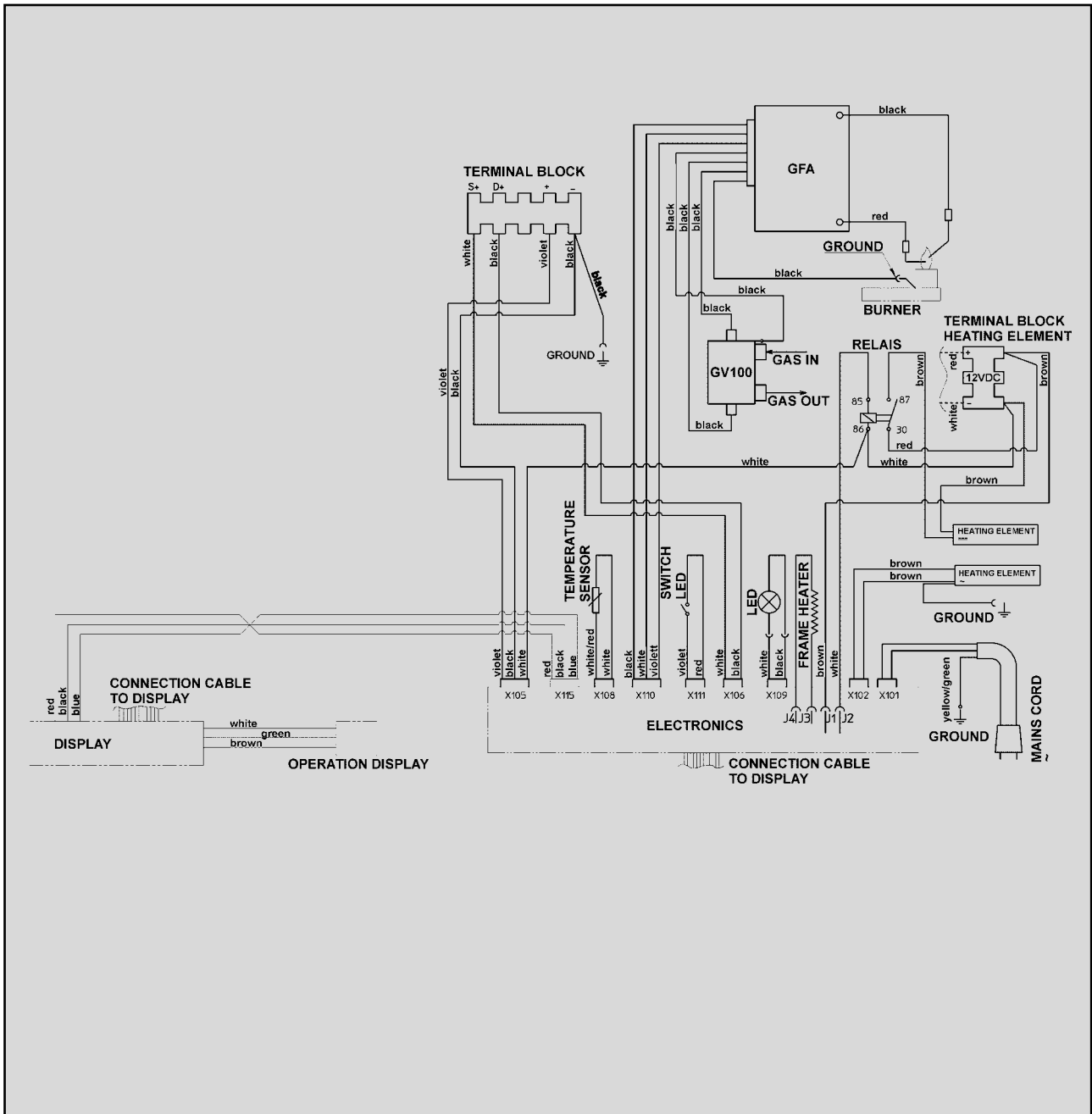


Fig. 38

4.0 Troubleshooting

4.1 Information on failure display and trouble-shooting

- Refrigerators with an electronics system (MES, AES) indicate the occurrence of a malfunction by the LED or display flashing.
- If a malfunction occurs, the indicator LED "Failure" ① flashes simultaneously. In the case of AES models an acoustic alarm sounds.

- ① = Indicator LED failure
- ② = Operating mode display
- ③ = Temperature level display
- ④ = additional Indicator LED failure RMD
- ⑤ = Operating mode display RMD

4.1.1 Status messages on the display

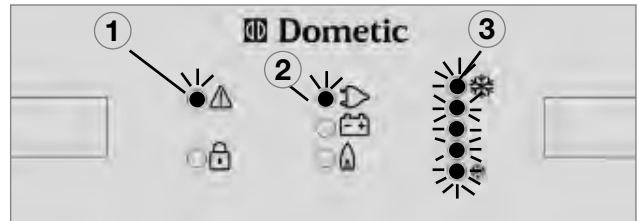


Fig. 39

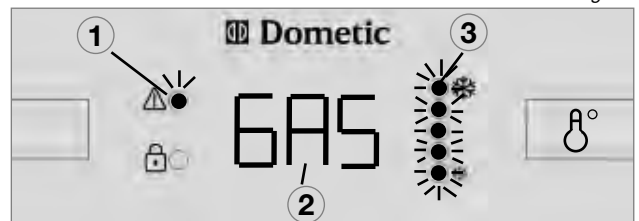


Fig. 40

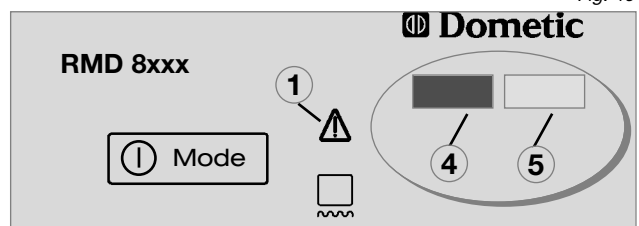


Fig. 41

| Display : LED ① flashes + | | Failure : |
|---|---|---|
| MES | AES | |
| LED is flashing | "230" is flashing | 230V mode: "230V" not available or voltage too low |
| LED is flashing | "12" is flashing | 12V mode: "12V" not available or voltage too low |
| LED is flashing | "GAS" is flashing | GAS/Auto mode: Flame not ignited |
| All temperature setting LEDs are flashing | All temperature setting LEDs are flashing | Temperature sensor defective, refrigerator works on mid temperature setting |
| LED + all temperature setting LEDs are flashing | "HE1" is flashing | 230V - Heating element defective / or cooling unit |
| LED + all temperature setting LEDs are flashing | "HE2" is flashing | 12V - Heating element defective / or cooling unit |

5.0 Repair & Maintenance

5.1 Entering the service mode

RM 8xx1 and RM 8xx5 have an internal service mode which can be used for testing and adjusting the interior light or the electrical door lock.

5.1.1 Service mode MES

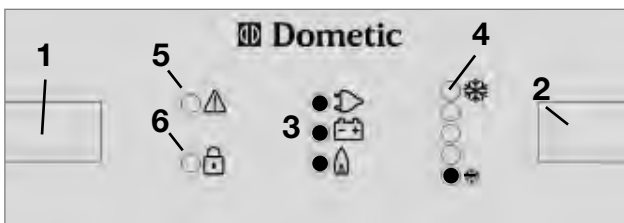


Fig. 42

The service mode is activated by keeping pressed down the temperature button (2) on the left side and switching on the main button (1). After this all 3 mode-LEDs light up. By pushing the temperature button (2), the different test-steps can be activated, test steps 1-6 are indicated by the temperature LEDs (3).

- Step 1:**
activates 230 V heating element (230V must be available)
- Step 2:**
activates 230V relay (230V has not to be necessarily available)
- Step 3:**
activates 12 V heating element (12V has to be available)
- Step 4:**
activates burner control device – output (Gas operation)
- Step 5:**
activates frame heating
- Step 6:**
activates interior lights (for fridges with electrical lock)

Step 7:

Recognition sequence (Reed switch or electrical lock)

Step 8:

activates temperature LEDs (4)

Step 9:

activates lock and failure LED (2) + (5)

To leave the diagnosis mode: Push button „2“ repeatedly or wait for 10 minutes.

Caution: Changes then are not saved or if „Mode“ button is used!

5.1.2 Service mode AES

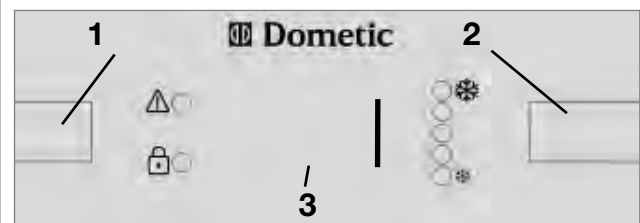


Fig. 43

The service mode is activated by keeping pressed down the temperature button (2) on the left side and switching on the main button (1). After this all 3 mode-LEDs light up. By pushing the temperature button (2), the different test-steps can be activated, test steps 1-6 are indicated by the temperature LEDs (3).

Step 1:

activates 230 V heating element (230V must be available)

Step 2:

activates 230V relay (230V has not to be necessarily available)

Step 3:

activates 12 V heating element (D+ and 12V supply has to be available)

Step 4:

Intern test step (is not indicated)

Step 5:

activates burner control device – output (Gas operation)

Step 6:

activates frame heating

Step 7:

activates interior lights (Except for electrical lock)

Step 8:

Intern test step (is not indicated)

Step 9:

Recognizing electrical lock or reed switch

Step 10:

activates all 7 segment-components one after the other

Step 11:

activates all LED's

To leave the diagnosis mode: Push button „2“ repeatedly or wait for 10 minutes.

Caution: Changes then are not saved or if „Mode“ button is used!

5.2 Displaying Software versions of power module (RMD 8xxx)

The service mode starts with showing all “LEDs on” for 3 seconds, followed by stating the SW version status and then service mode sequence starts as on normal 8 series fridges.

MES :

stating the SW version status via operating LED and temperature LEDs.

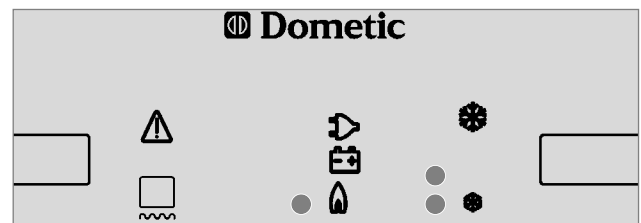


Fig. 44

Example : Software version **V 1.2**

AES :

stating the SW version status via display



Fig. 45

Example : Software version **V 1.66**



Probably starting with season 2010 these functions will be valid for all models RM 8xx1 and models RM 8xx5.

5.3 Sequence for recognizing „Heating element defect“

Conditions:

- Interior temperature $>18^{\circ}\text{C}$, corresponding relay is switched on (230V or 12V), door has to be closed for longer than 5 minutes.
- Temperature of reevaporater (a) is recorded.
- After 2 hours, the temperature (b) is recorded again, if the fridge is in the same mode and no door openings have happened (RMD).
- If the temperature difference a-b $< 3^{\circ}\text{K}$, the corresponding heating element error will be indicated.

5.4 Controlling the interior light via Reed switch

The MES-Electronics uses the X114 and X111 as well for controlling the Reed switch as well as the electrical lock. In the Service mode, the electronics will recognize the application of a reed switch, following the below steps.

- Choose step 7 in the service mode
- Deactivate D+; open the door
- Push temperature button
- Close the door (Reed switch will be recognized)
- Continue service mode (push temp. button)

The interior light will now be controlled via the Reed switch.

5.5 Recognising the Electrical door lock

Optionally, max. two electrical door locks can be controlled. They are connected to X111 and X114 **(Notify, that if there is only one lock this has to be connected to X111)**

In the service mode the electronics will recognize the locks following the below steps.

- Open the door(s)
- Choose step 7 in the service mode
- Close the door(s)
- Activate D+
- Continue Service mode with step 6

The locked door will be indicated via LED 5, and can be unlocked by pushing button 7. If you have 2 electrical door locks, LED 5 will flash, if one lock is not locked. (s. pg 9)



The electrical door lock is no option anymore since 2009. Only a few number of pieces of RM 8xxx models are equipped with it.



Items 5.4 and 5.5 are not valid for RMD 8xxx models.

5.6 Removal of the door

This hinges are screwed onto the housing and snapped in as well. Unscrew at first , then unlock the hinge and the door by pushing the lock notch.

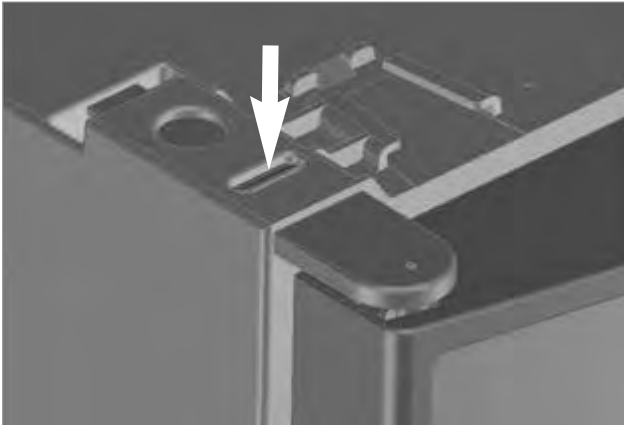


Fig. 46

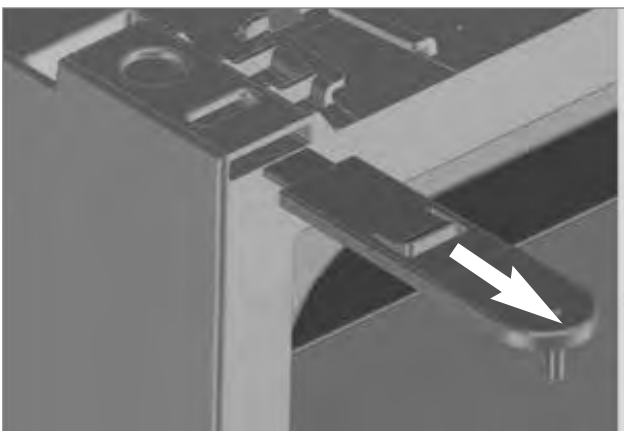


Fig. 47

5.7 Removal of the fascia

The operation panel can be loosened by removing two screws, when the door is opened. The electronics at the RM(D) 8xx1 and RM(D) 8xx5 is screwed into the panel from the inside.



Fig. 48

If the fridge is demounted, the operation panel including the holding device can be loosened very easily. It is only attached to the housing.

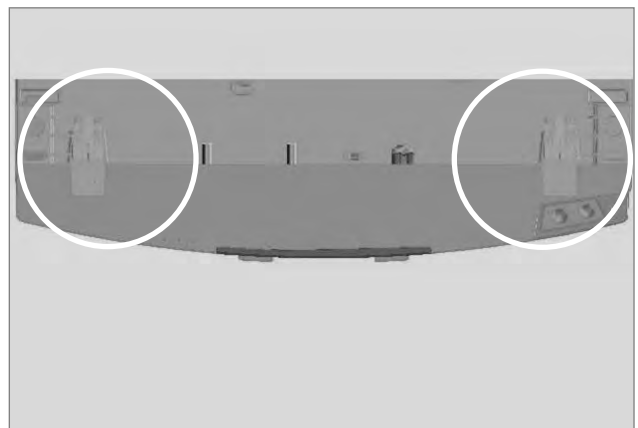


Fig. 49

5.8 Removing interior light and door lock

In case of a defective lighting the whole unit (doorlock device) is to be changed. The transparent cover is a separate part which does not belong to the unit.

After removing the cover the housing can be unscrewed.

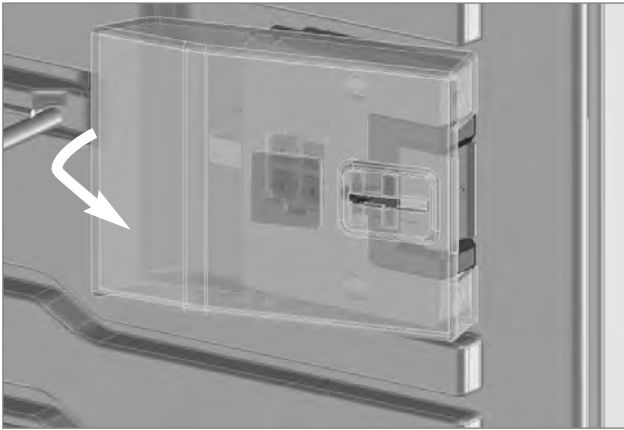


Fig. 50

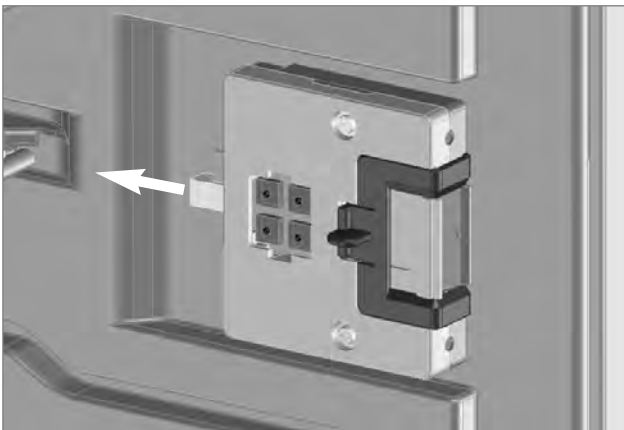


Fig. 51

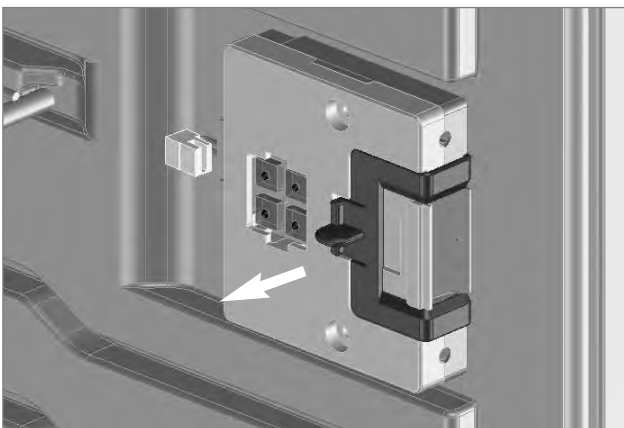


Fig. 52

Find behind the plastic cover two screws holding the locking hook.



Fig. 53

Electrical doorlock (was an option)

Proceed in the same way as above to remove electrical door lock device.

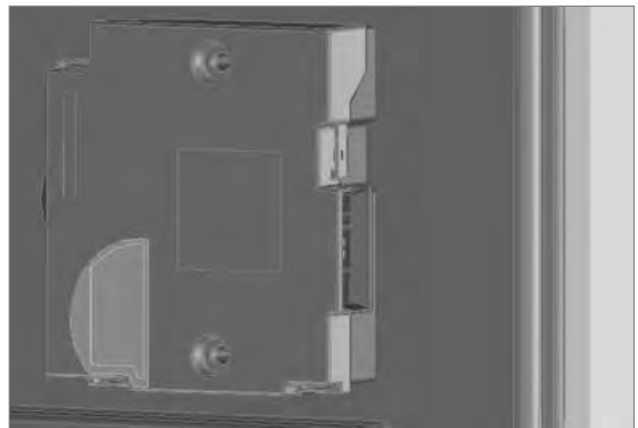


Fig. 54

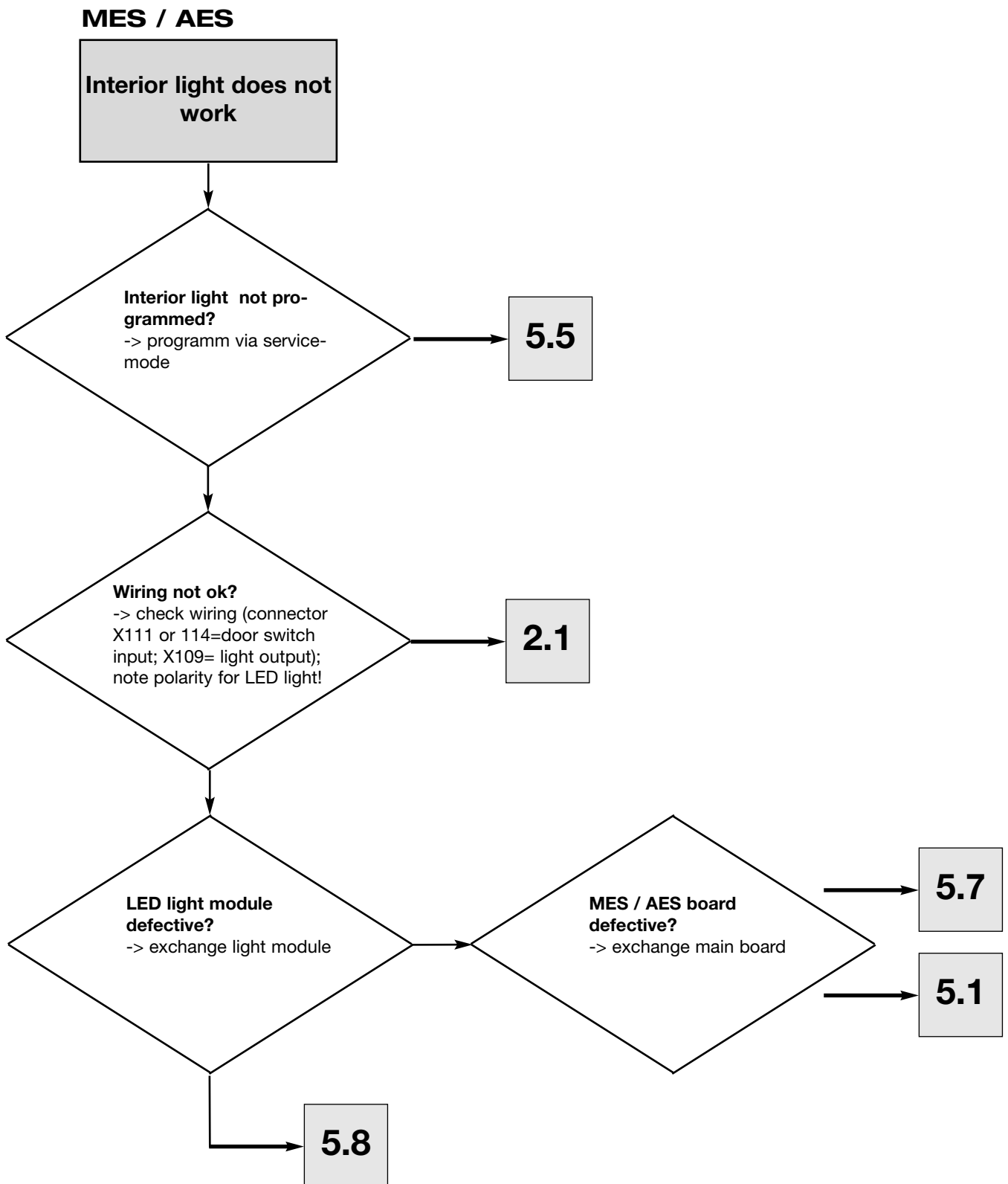
The door lock tongue is fixed with two screws behind the cover plate.

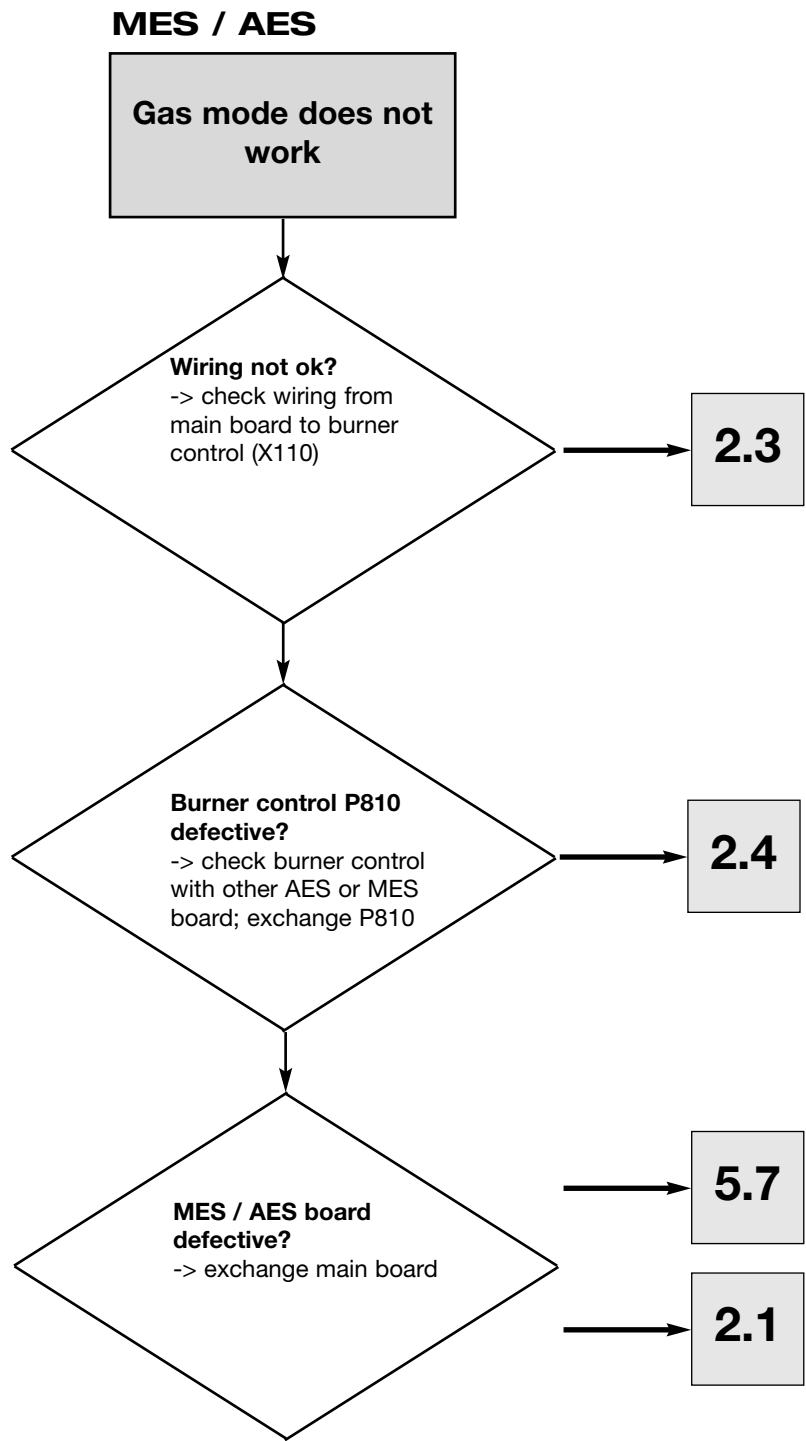


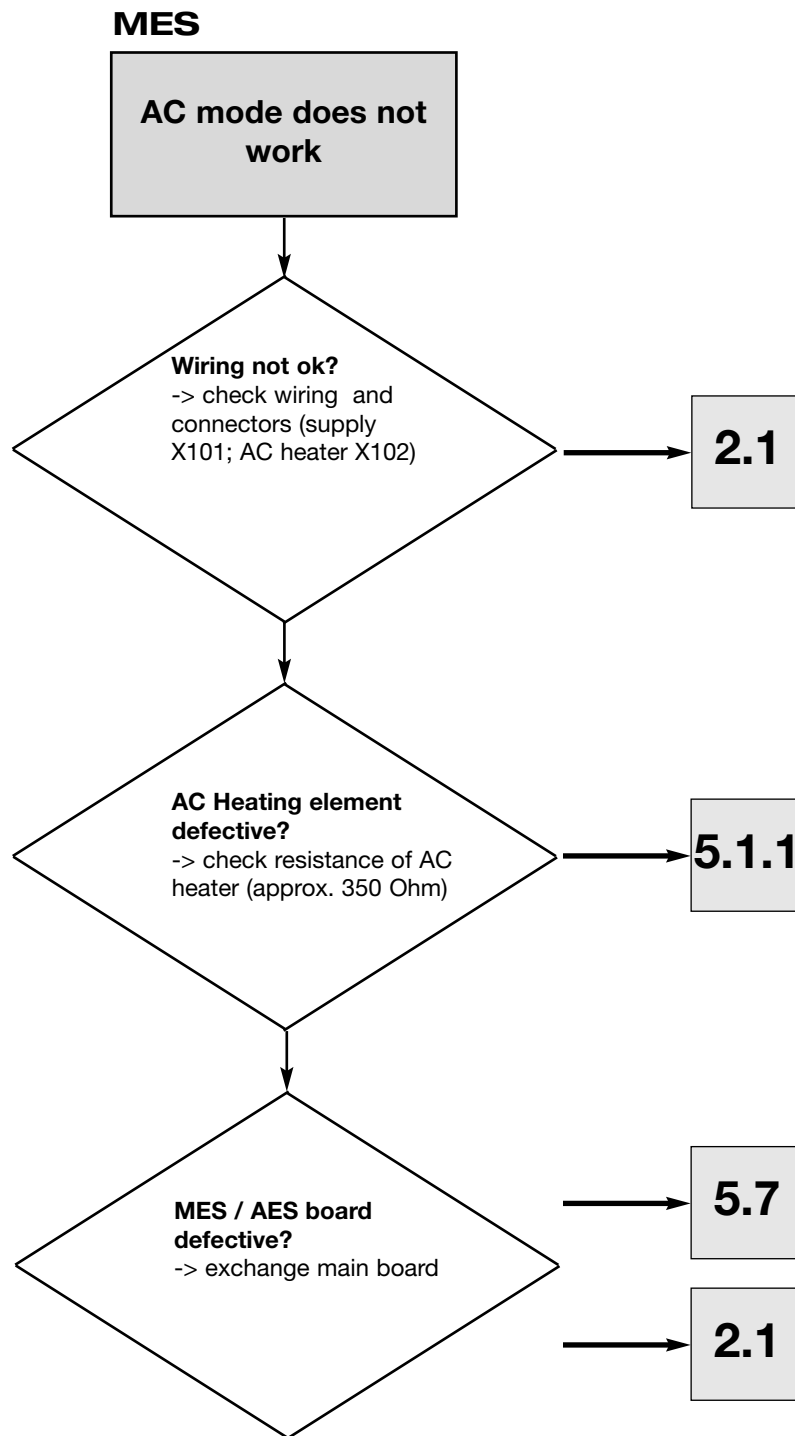
Fig. 55

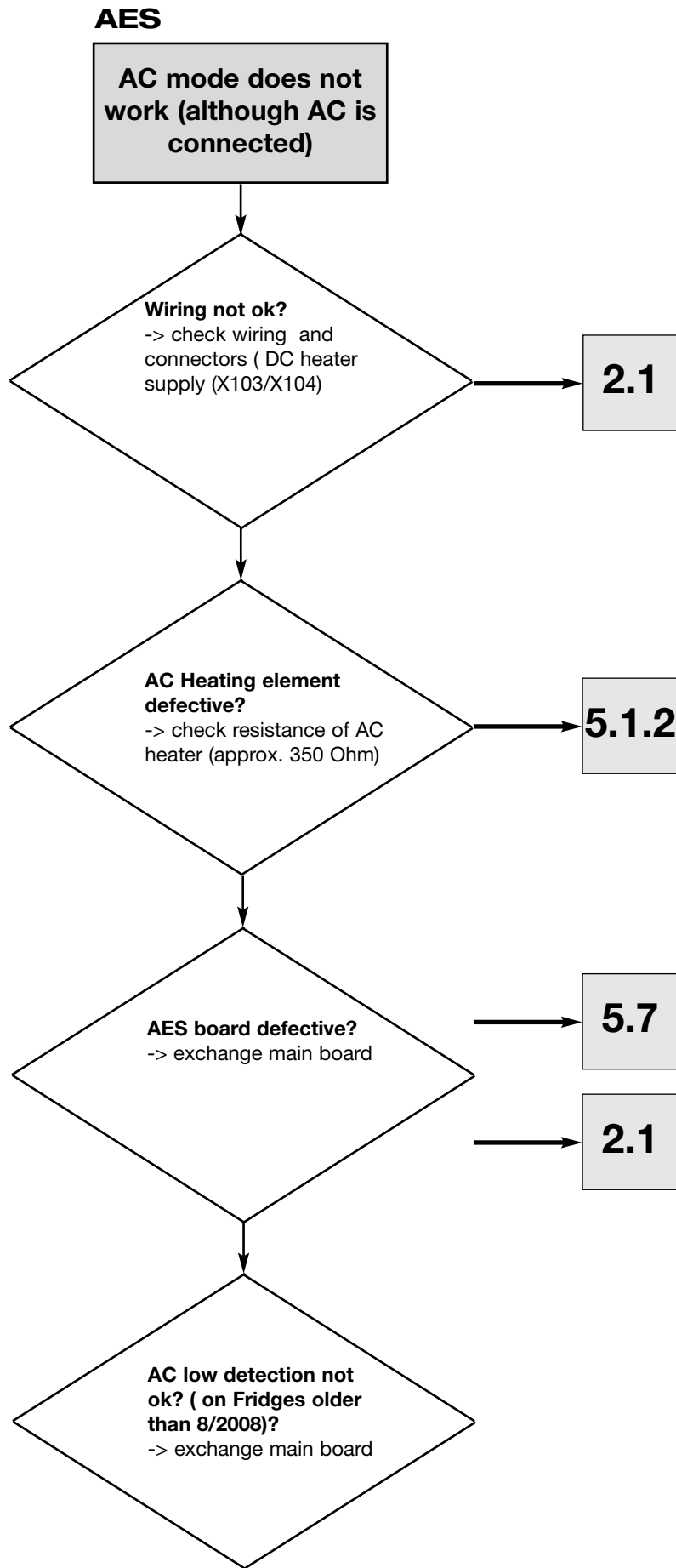
The tongue can be adjusted if the door does not close correctly.

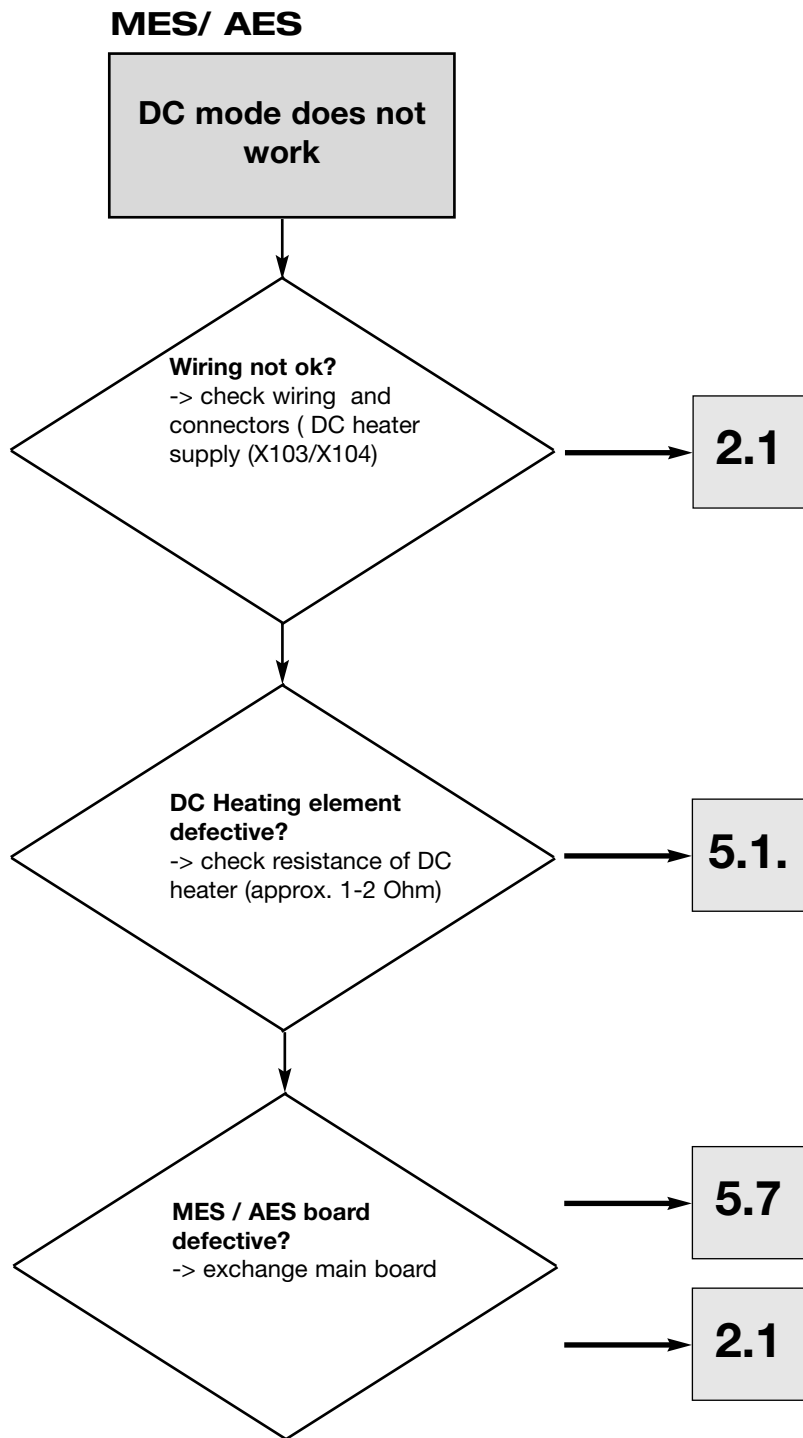
5.8 Flowcharts

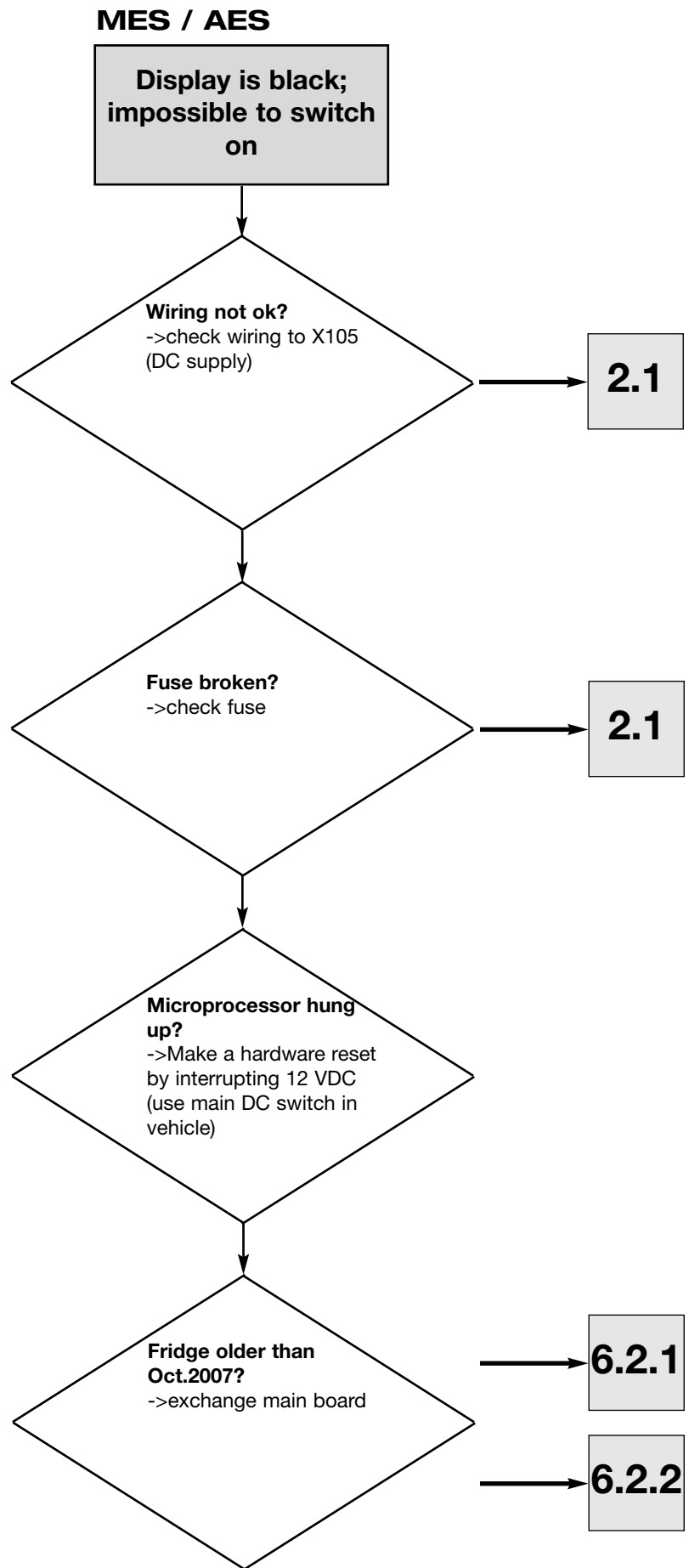




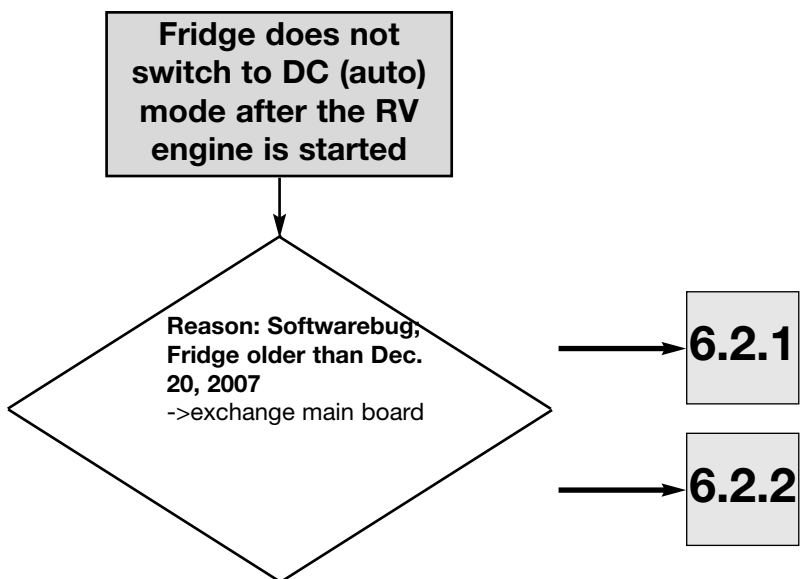
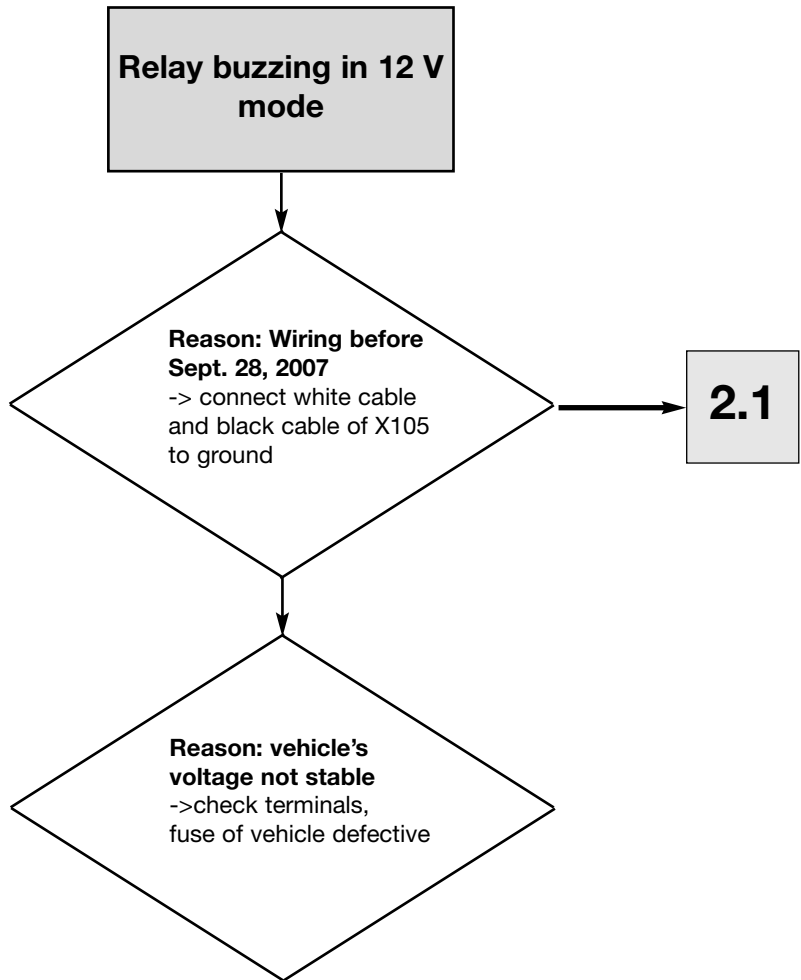








MES / AES



5.9 Testplan MES

Before testing make sure, that all cables are connected to the PCB ! Provide a possibility, that the 12 VDC supply , the AC supply , the +12 V heater supply and the D+/S+ connection (only on AES) can be interrupted easily ! The supply voltage must be between 11 VDC and 14 VDC.

| No. | Action | Indication | Result |
|-----------|--|--|--|
| 1. | 230 VAC Function test | | |
| 1.1 | Turn rotation knob to AC with AC supply not connected | AC LED and red LED must flash | |
| 1.2 | Provide AC supply (230 V) | AC LED lights green after a few seconds | AC relay switches |
| 2. | 12 VDC Function test | | |
| 2.1 | Turn rotation knob to DC with +12 V heater supply not connected | DC LED and red LED must flash | |
| 2.2 | Provide +12 V heater supply | DC LED lights green after a view seconds | DC relay switches |
| 3. | Gas Function test | | |
| 3.1 | Turn to Gas, wait ca. 5,5 minutes (3 ignition trials) | Gas LED and red LED flash (gas lockout) | (3 ignition trials: 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition. |
| 3.2 | Switch off and on again; go to gas mode, provide gas to gas input tube | Gas LED lights green | Ignition starts until flame is on |
| 4. | Interior light test | | |
| 4.1 | Turn to any mode, open door | | Interior light switches on |
| 4.2 | Close door | | Interior light switches off |
| 4.3 | Turn to - OFF mode and open door | | Interior light keeps off |

5.10 Testplan AES

| No. | Action | Indication | Result |
|-----|--|---|--|
| | <p>230 VAC Function test</p> <p>Turn to AC mode with AC supply not connected</p> <p>Provide AC supply (230 V)</p> | <p>Display shows "230" flashing with red LED</p> <p>Display shows "230"</p> | <p>AC relay switches</p> |
| | <p>12 VDC Function test</p> <p>Turn rotation knob to DC with +12 V heater supply not connected</p> <p>Provide +12 V heater supply</p> | <p>Display shows "12" flashing with red LED</p> <p>Display shows "12"</p> | <p>DC relay switches</p> |
| | <p>Gas Function test</p> <p>Turn to Gas, wait ca. 5,5 minutes (3 ignition trials)</p> <p>Switch off and on again; go to gas mode, provide gas to gas input tube.</p> | <p>Display shows "GAS" flashing with red LED (gas lockout)</p> <p>Display shows "GAS"</p> | <p>3 ignition trials: 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition.</p> <p>Ignition starts until flame is on</p> |
| | <p>Interior light test</p> <p>Turn to any mode, open door</p> <p>Close door</p> <p>Turn to - OFF mode and open door</p> | | <p>Interior light switches on</p> <p>Interior light switches off</p> <p>Interior light keeps off</p> |
| | <p>AES Mode</p> <p>Turn to AES mode; +12 VDC heater and AC supply not connected</p> <p>Provide AC supply</p> <p>Remove AC and provide DC heater supply and D+ (alternator input)</p> <p>Remove DC and wait approx. 15 Minutes</p> | <p>Display shows "AES" changing with "GAS"; after ca. 5,5 min the display shows "AES" flashing with red LED (gas lockout).</p> <p>Display shows "AES" changing with "230"</p> <p>Display shows "AES" changing with "12"</p> <p>Display shows "AES" ; after 15 minutes the display shows "AES" changing with "GAS"</p> | <p>3 ignition trials: 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition, 2 minutes ventilation pause, 30 seconds ignition.</p> <p>AC relay switches</p> <p>DC relay switches</p> <p>DC mode switches off; after 15 minutes (tankstop delay) ignition starts (3 attempts)</p> |

6.0 Appendix

6.1 List of gas burners and jets

| Model | Part no. gas burner | Gas pressure | Jet ID number | Nominal thermal input (in W) | Part no. jet |
|----------|---------------------|--------------|---------------|-------------------------------|-----------------|
| RM 8400 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8401 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8405 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8500 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8501 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8505 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8550 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8551 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RM 8555 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMD 8501 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RMD 8505 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RMD 8551 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RMD 8555 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RML 8550 | 292 3430-51 / 2 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RML 8551 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RML 8555 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| | | | | | |

| Model | Part no. gas burner | Gas pressure | Jet ID number | Nominal thermal input (in W) | Part no. jet |
|--------------|--------------------------------|---------------------|----------------------|---|-------------------------|
| RMS 8400 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8401 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8460 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8461 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8465 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8500 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8501 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8505 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8550 | 292 3430-51 / 2 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8551 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMS 8555 | 241 2802-81 / 7 | 30 mbar | KZ 43 | 252 | 292 2033-06 / 9 |
| RMSL 8500 | 292 3430-51 / 2 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RMSL 8501 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| RMSL 8505 | 241 2802-81 / 7 | 30 mbar | KZ 16 | 310 | 292 2033-10 / 1 |
| | | | | | |
| | | | | | |
| | | | | | |

6.2 Overview software changes

6.2.1 MES models (RM 8xx1)

| No. | Change | Software name | Marking | introduced since |
|-----|--|---------------|--|------------------|
| 1. | Software: DC low voltage detection sequence changed (changes within 1 sec, if 12 V heater DC is available) | MES_Jun_27 | green "geprüft"-sticker on housing | week 26 / 2007 |
| 2. | Software: DC low voltage detection reduced to 8.5 V. Sensitivity for ground difference increased to 1.3 V ; white ground cable linked with black ground cable (both of X105). | MES_10_Sept | white cross on housing | week 37, 2007 |
| 3. | Software: adjusted to longer ignition times of burner control P810 | MES_Sept_28 | white circle on housing | week 41, 2007 |
| 4. | Softwareänderung; EMC improvement for frequency 1 Hz-1 Mhz | MES_Oct_15 | white circle with cross on housing or sticker on PCB | week 45, 2007 |
| 5. | Version for RMD 8XX1 models driver for external status LED frameheater driver via right button automatic frame heater switch off after 2 hours no electrical doorlock driver no "learning" necessary when starting the servicemode all LEDs are lighted followed by the SW status if the door is open longer than 2 minutes, the blue external LED will flash no DC low voltage detection. | MES_1.2 | sticker on PCB and shown in servicemode | week 21, 2009 |

6.2.2 AES models (RM 8xx5)

| No. | Change | Software name | Marking | introduced since |
|-----|---|-----------------------------------|---|-------------------------|
| 1. | Software: DC low voltage detection sequence changed (changes within 1 sec, if 12 V heater DC is available) | AES_main_V1_40.s19 (27 July 2007) | white circle on housing or sticker on PCB | since December 12, 2007 |
| 2. | AC low voltage detection revised (Threshold 195 V) | AES_main_V1_52.s19 | sticker on PCB | since August 15, 2008 |
| 3. | Version for RMD 8XX5 models driver for external status LED frameheater driver via right button automatic frame heater switch off after 2 hours no electrical doorlock driver no "learning" necessary when starting the servicemode all LEDS are lighted followed by the SW status. If the door is open longer than 2 minutes, the blue external LED will flash no DC low voltage detection acoustic alarm limited to 60 sec. followed every hour, if error is not confirmed | V1.66.s19 | sticker on PCB and shown in servicemode | week 21, 2009 |

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If in doubt, please consult with a professional RV technician!



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