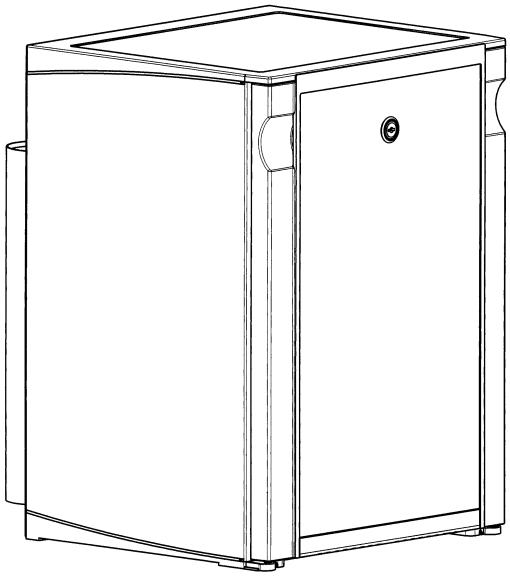
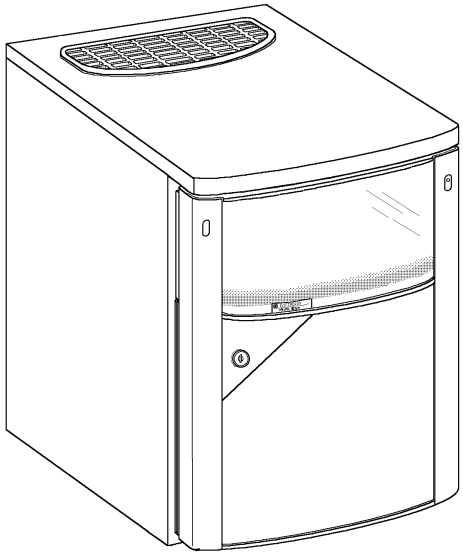
Dometic

SERVICE INSTRUCTION

COOLING
3120
3130





miniBar
miniCool

Previous models
Greenline
Face-lifting
HiPro

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DES

ENGLISH

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1.0 Summery of Models

Face lifting models and Greenline models are the latest generation of miniBars/miniCools and consumes approximately 40% less energy than its predecessors.

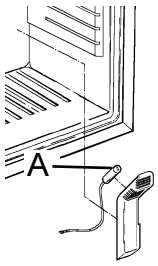
Face lifting	Greenline Models	Previous Models
RH 430LD	RH 330LD	RH 236LD
RH 440LD	RH 340LD	RH 237LD
RH 441LD	RH 341LD	RH 238LD
RH 460LD	RH 360LD	RH 252LD
RH 461LD	RH 361LD	RH 255LD
RH 456LD/LDE	RH 356LD/LDE	RH 300LD
RH 455LD	RH 355LD	RH 226LD
RH 436D	RH 136D	-
RH 447D	RH 137D	-
-	EA 330/L	-
-	EA 355/L	-
-	EAW 3220	-

Changes **Face-lifting models to Greenline models:**
Automatic defrost -cycle and design

Changes **Greenline models to Previous models:** cooling unit, the heating cartridge, lighting, insulation and electronic controls (Fuzzy Logic).

2.0 Electronics

2.1 Fuzzy Logic



All Greenline models and Facelifting models maintain a constant temperature level which has been set at the beginning of operation. This temperature level is controlled by electronic “intelligence” in an energy-saving way.

Unlike conventional appliances, the electronic control component does not switch on and off but controls (clocks) the cooling unit’s heating power in a way which does not require system circulation to be interrupted.

The electronic control’s sensor (A) is an air sensor. This means that the sensor can react directly to the temperature inside the cooling appliance.

2.2 Fuzzy Logic with 2 sensors

By means of the second sensor the electronics carries out a leak detection test. If leaks or blockages in the cooling unit are recognised the miniBar is shut off by the electronics. The test is done after every defrost cycle (every 24 hours).
After a Power-On-Reset, the controller’s software runs a self test routine to check the function of the sensors. The result of the test is shown with the length of the first duty-cycle of the heating element (jumper X4).
There are four different states which are shown in the following table:

Status	Duty-Cycle
both sensors o.k.	7 sec. ON
air-sensor missing/defective	9 sec. ON
evaporator-sensor missing/defective	12 sec. ON
both sensors missing/defective	15 sec. ON

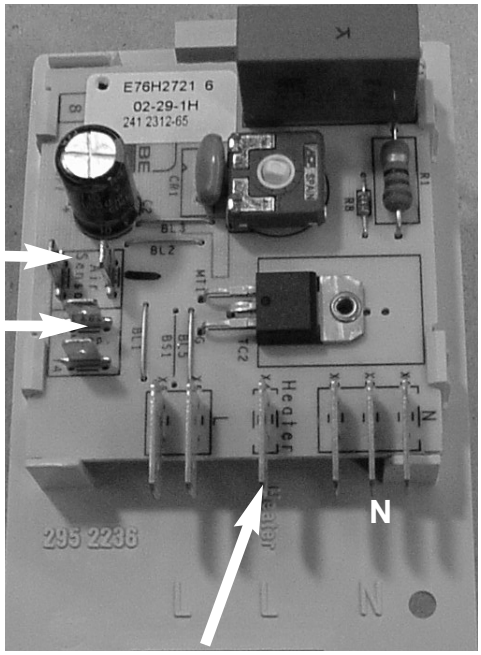
In service case please pull sensor off electrics and check by means of measurement.

(ch. “15.0 Troubleshooting”)

Ambient temperature°C	Resistance (kΩ)
0°	32,51 +/-2%
10°	19,86 +/-2%
15°	15,68 +/-2%
20°	12,48 +/-2%

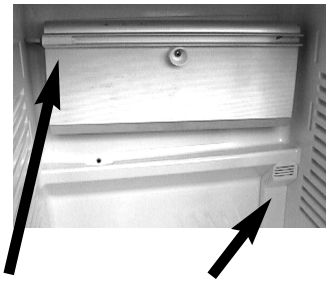
If the air-sensor fails during normal operation, the software shuts down the cooling unit in steps to “0”.
In refrigerators without evaporator-sensor or if the evaporator-sensor is defective the leakage test is not carried out.Then the new electronics works like the previous one without leakage detection.

⚠ **Do not change the connections of the evaporator-sensor and the air-sensor !**



Connections air-sensor = Y1, Y2

Connections evaporator-sensor = Y3, Y4



Evaporator-sensor

Air-sensor

X4, connection heating element

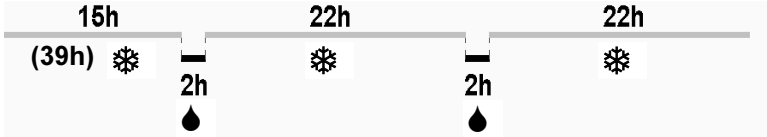
X5,X6 = L

X1,X2,X3 = N

3.0 Automatic Defrost Function

The electronic also regulates the automatic defrosting of the refrigerator. When the plug has been stuck to the socket the running time of the refrigerator up to the **first defrosting is 15 hours for greenline models and 39 hours for the new face lift models (RH4XX)**. For all models the **defrosting takes 2 hours**. **Then the refrigerator works 22 hours and afterwards defrosts 2 hours.** Therfore the starting of the refrigerators determines the time of defrosting.

For example: Starting at 7.00h = first defrosting 22.00h - 24.00h (for facelift models 22.00h next day)



4.0 Cooling Unit

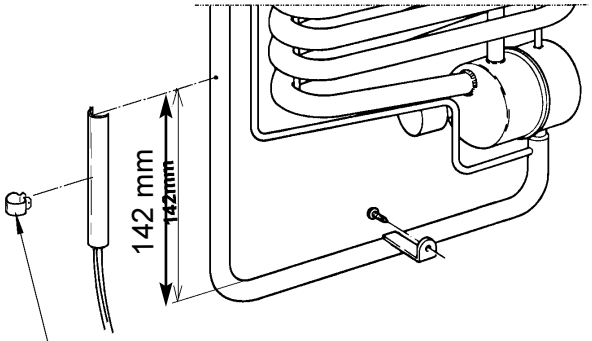
The cooling unit has been optimised for the Greenline models and Face-Lifting models. Unlike the cooling units of its predecessors, the Greenline models and Face Lifting models cooling units **can be replaced.**
When replacing the cooling unit, however, the heating element (heating shell) must be replaced as well.
Ammonia is used as a coolant. This is a natural compound also used in house hold cleaning agents (1 litre of Salmiak cleaner contains up to 200g of ammonia - about twice as much as is used in the refrigerator). For the safety of hotel guests and personnel, it has been established by inspectors that the coolant poses **no threat to health**.

5.0 Heating Shell

The conventional heating element (previous models) is replaced by a heating shell. The heating shell is situated directly to the cooker tube. An optimal efficiency ratio is achieved by means of a direct and enlarged contact area.

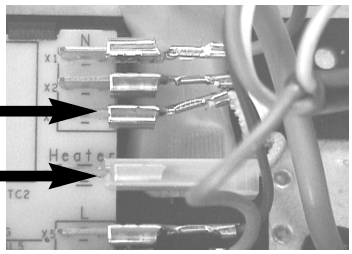
In case service is required:

Attention please! The heating bowl's upper edge must be placed at the shown position (142 mm).



Install the mounting clip at the centre of the heating shell.

5.1 Measuring of resistances at heating elements



Connections **N**

and **X4**

Measure resistance...

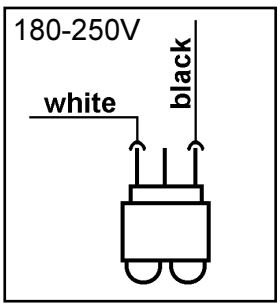
...replace heating shell if required.

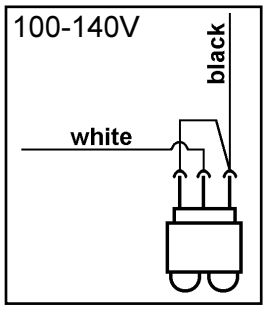
230V / 65 W heating shell ~ 800Ω
230V / 80 W heating shell ~ 650Ω
110V / 65 W heating shell ~ 186Ω
110V / 80 W heating shell ~ 150Ω

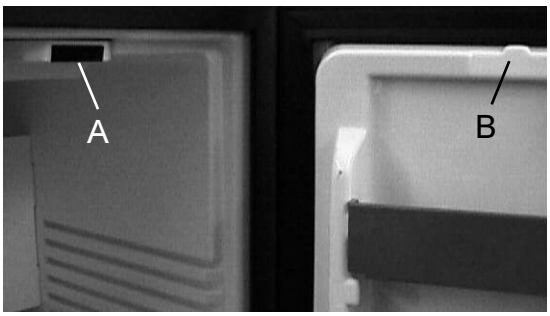
Resistances :
ch. "15.0 Troubleshooting"

6.0 Lighting (except for RH 356LD/E, RH 456LD/E)

All Greenline and face lifting cooling appliances are equipped with sensor-controlled lighting. The lighting's sensor (proximity switch, A) is activated by means of a magnet (B) which has been foam-installed into the door.
The lighting mechanism consists of two lamps for 180-250V operation switched in series. For voltages of 100-140V, the lamps are switched in parallel by means of a bridge.

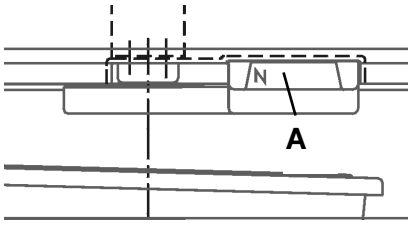






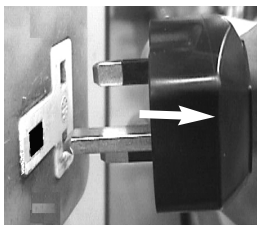
A = Proximity switch
Take care when replacing- pay attention to correct polarity

B = Magnet

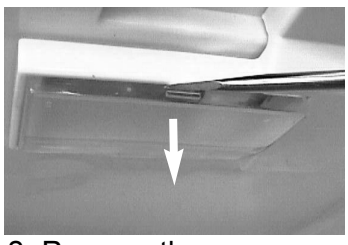


The proximity switch (A) is mark with a "N" on the left side in front (**correct polarity**) . If you chance the proximity switch please eighth of the polarity.

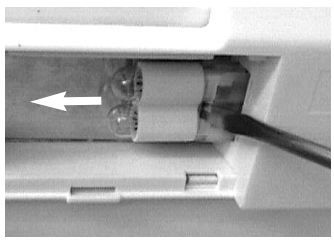
Changing bulbs:



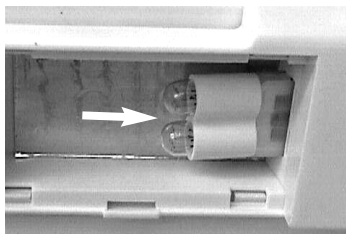
1. Pull out the mains plug.



2. Remove the reflector disk.



3. Remove defective bulb.



4. Insert new bulb.

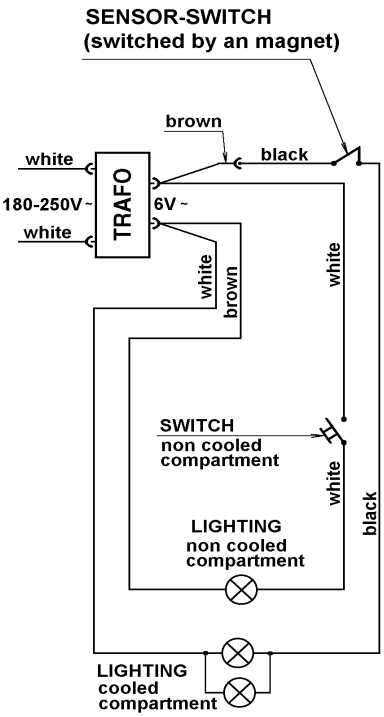
5. Clip reflector disk back in.

Lighting for RH 356LD/LDE and RH 456LD/LDE

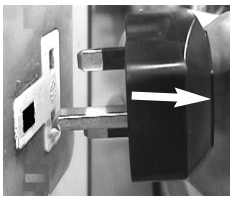
The above models are equipped with separate warm shelf and cooling section lighting. This lighting mechanism consists of:

- sensor - switch
- 1 light bulb for warm shelf
- 2 light bulb for cooling section
- Transformer (output voltage 6V)

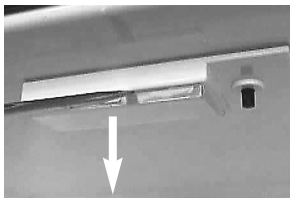
Pay attention to country-specific voltages for the transformer!



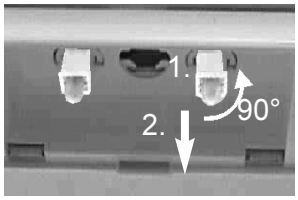
Changing bulbs:



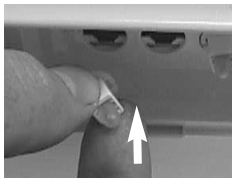
1. Pull out the mains plug.



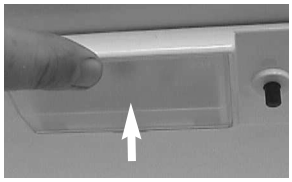
2. Remove the reflector disk.



3. Remove the defective bulb.

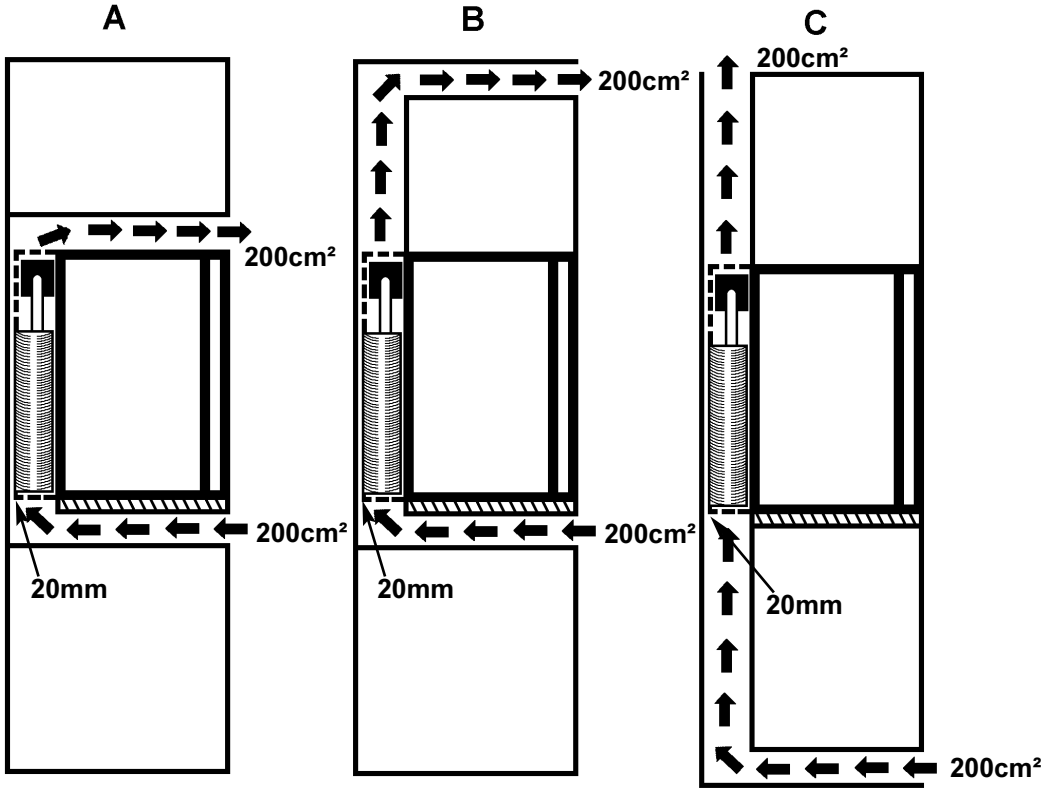


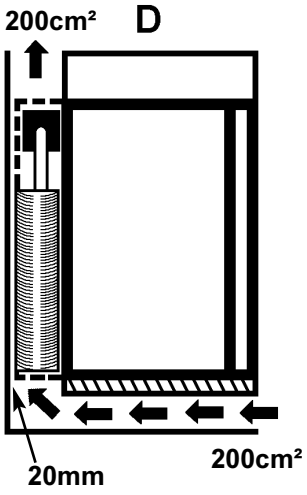
4. Insert new bulb.



5.Clip reflector disk back in.

7.0 Installation





IMPORTANT:

Please follow the installation details below carefully. Guarantee is valid for products installed as described only.

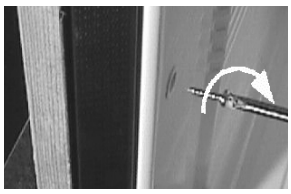
1. **The refrigerator must be <u>level both directions</u>**
2. **There sould be <u>20mm clearance to the wall</u>**
3. **Ventilation must be provided <u>as shown</u> in alternatives A,B,C or D**
4. **The ventilation duct must at least measure <u>105mm x the wtdth of the refrigerator</u>**
5. **<u>Only</u> the entire cooling unit must project into the duct as shown**
6. **<u>Air passing through the duct must not be preheated</u> by any source of heat**
7. **Ventilation grills, if used, must have openings of <u>at least 200cm² each</u>**

Recess dimensions in mm:

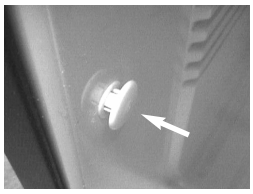
Model	Hight	Width	Depth
RH 430LD, RH 330LD	526	388	432
RH 436D, RH 136D	526	388	432
EA 330L	526	388	432
RH 440LD, RH 340LD	558	405	466
RH 447D, RH 137D	558	405	466
RH 441LD, RH 341LD	558	405	469
RH 456LD/E, RH 356LD/E	662	454	523
RH 460LD, RH 360LD	567	490	494
RH 461LD, RH 361LD	567	490	494
EAW 3220	567	490	494

8.0 Securing

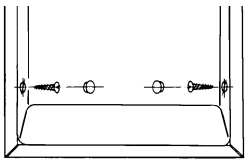
RH 356LD/E, RH 456LD/E

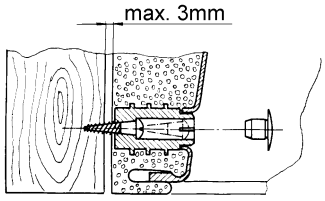


1. Tighten screw.



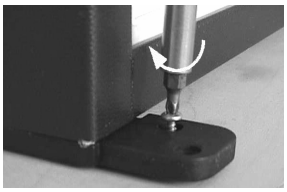
2. Put on cap.



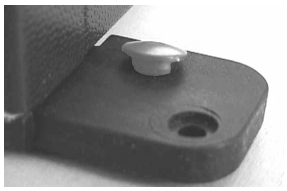


RH136, RH137, RH330, EA330, RH340, RH341, RH360, RH361, RH437, RH447, RH430, RH440, RH41, RH460, RH461, EAW 3220

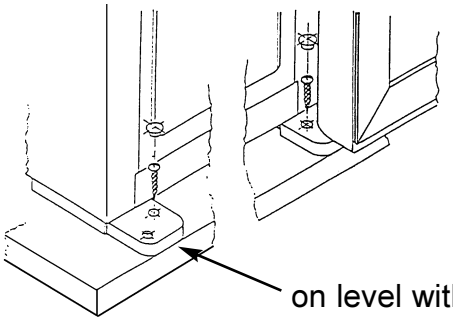
The miniBar must be screwed onto the cupboard using the lower hinges.



1. Tighten screw.

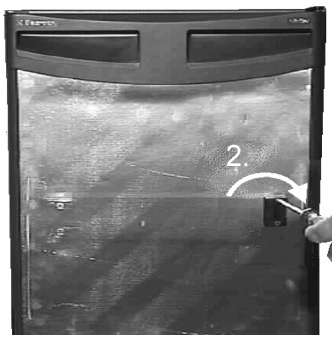


2. Put on cap.

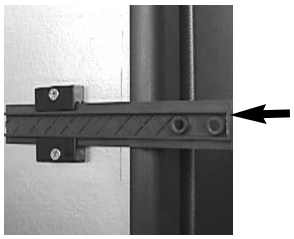


9.0 Changing the Sliding Hinge

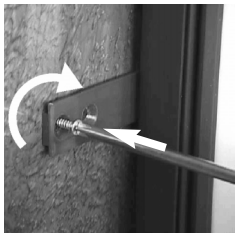
1.



2.

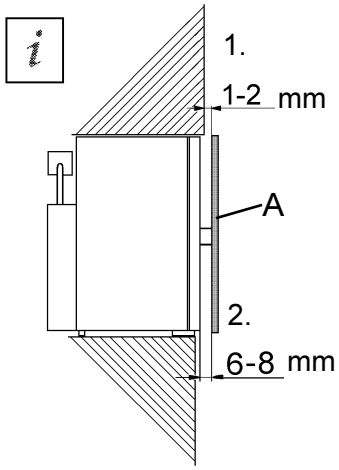


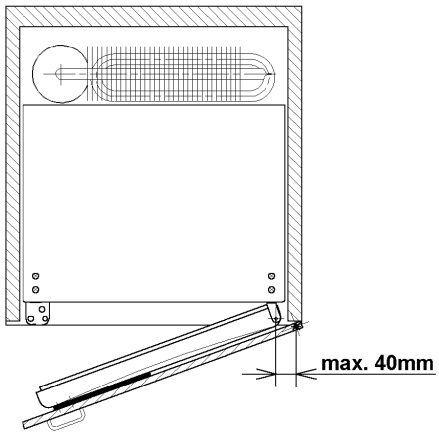
3.



4.

Distance to cupboard door (A)

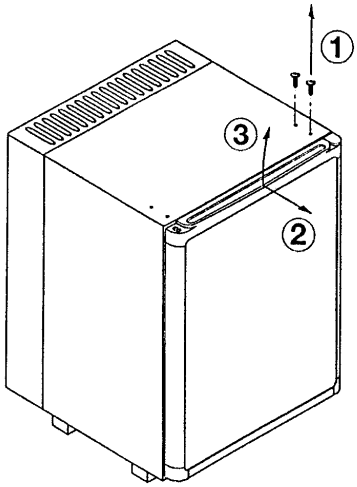


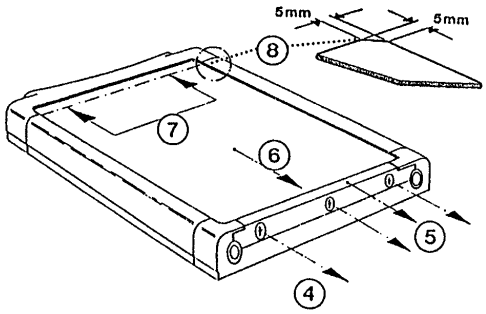


1. When closed, the cupboard door (A) must not lie against the rest of the surrounding cupboard area (distance 1-2mm).

2. There must be a distance of 6-8mm between the cupboard door and the miniBar.

10.0 Changing the Decorative Panel





- Unscrew the 2 screws of the upper door hinge.
- Pull the door and the hinge off, away from the housing and in an upward direction from the lower hinge pin (2-3).
- Unscrew the screws (4) and pull off the frame section (5).
- Pull the decorative panel (6) out of the door frame and push in the new decorative panel (7) in such a way that the upper edge runs exactly parallel to the upper section of the frame.
  Put on upper section of frame (5) and re-fasten with screws (4).
- Set the door on the lower hinge, put the upper hinge in the door, guide the door with the hinge into the hinge hole opening and screw together.

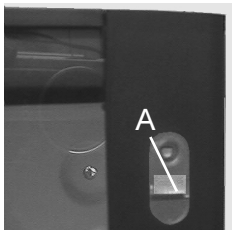
11.0 Automatic Door Control (ADC)

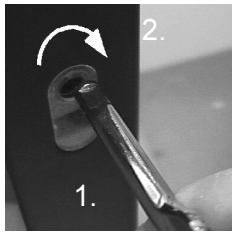
11.1 Mechanical ADC

Using a red dot in the display window (A, point 3), the ADC shows that the miniBar´s door has been opened.

Reset of automatic door control:

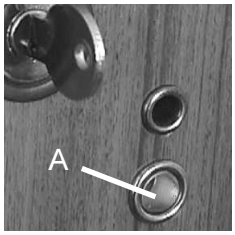
RH456LD/E





3. Insert ADC key and turn to the right.

All other models



3. Insert ADC key and turn to the left.

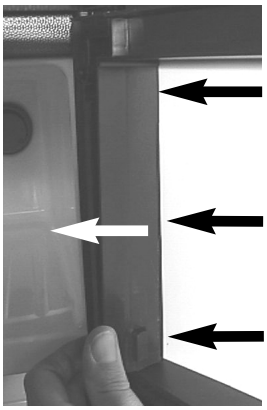
The red dot has disappeared now.

11.1.1 Change of the Mechanical ADC
(for RH356 / RH456 LD E)

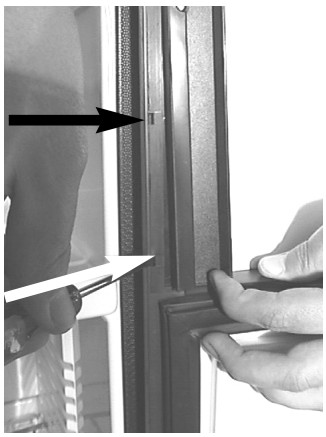
Pin
(triggers a weight when opening the door)

ADC - component, complete

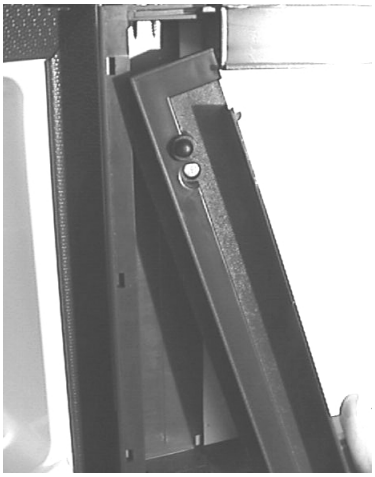
The complete component is not screwed in the doorframe but inserted. So without removal of the door or loosing of screwings the ADC-component can be exchanged.

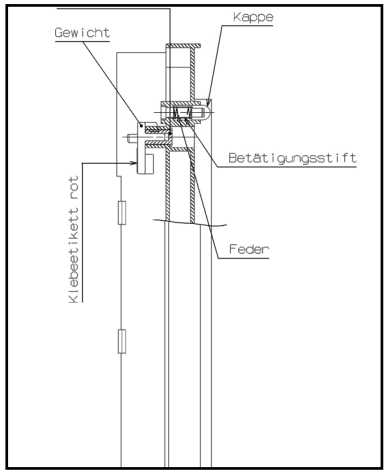


Press in the mounting pins and pull out the component a little bit.



Press in the mounting pins on the other side as well by means of a screw driver.....



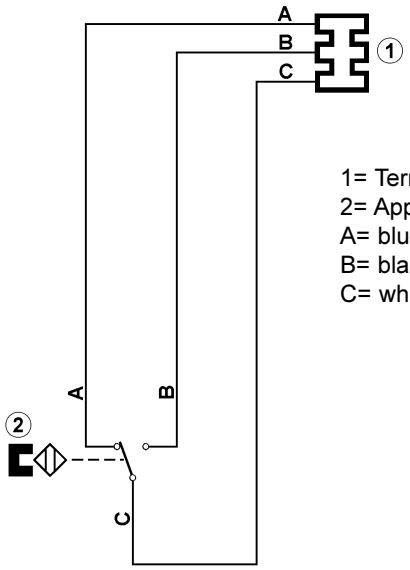


.....and pull out the complete ADC.

11.2 Automatic Door Control (electrical)
(for RH356 / RH456 LD E)

When the miniBar is opened, a magnetically operated approximation switch located underneath on the fridge is activated (FIG 1.)

Depending on the connection (opening/closing mechanism), an electric circuit is closed or opened. Accordingly, this is registered and processed at the hotel reception. **Note:** Electrical rating!



The miniBar´s wiring connection is situated at the rear of the appliance and consists of a 3-pin terminal strip (1).

1= Terminal strip
2= Approximination switch
A= blue (opening mechanism)
B= black (closing mechanism)
C= white

FIG. 1

11.2.1 Installation of the Electrical Door Control

The following miniBars could be retrofitted with an electrical door control :

RH 330, RH 340, RH 341, RH 360, RH 361, RH 430, RH 440, RH 441, RH 460, RH 461 with the

Service-Kit
Spare part number: 210 6821-20
Instruction 599 4722-46/9

RH355, RH356 with the

Service-Kit
Spare part number: 210 6821-30
Instruction 599 4722-59/2

The instructions are on the following pages.

INSTRUCTION

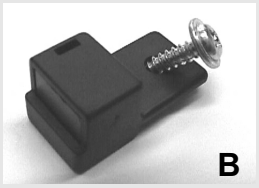
Retrofit "Electrical Automatic Door Control"
RH 330, RH340, RH 341, RH 360, RH 361

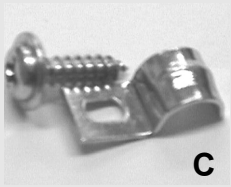
In order to retrofit the electrical automatic door control, the following service-kit with spare part number 210 6821-20 will be required.
You can order the service-kit at:

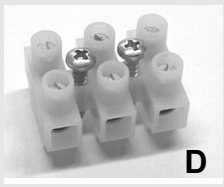
Dometic GmbH
Export Department
In der Steinwiese 16
D-57074 Siegen

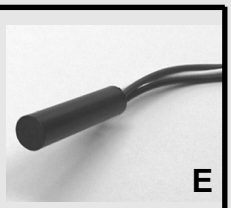
Tel.: 0049 271/ 692-0
Fax.: 0049 271/ 629-303


A


B


C

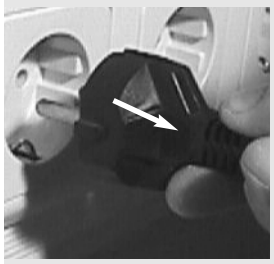

D

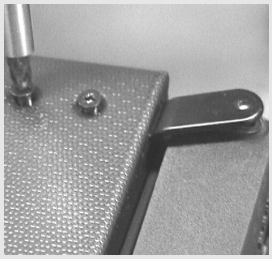

E

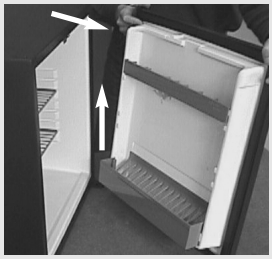

three pieces F

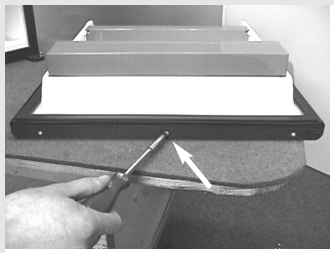
Service-kit
Spare part number: 210 6821-20

Mounting the Electrical Automatic Door Control

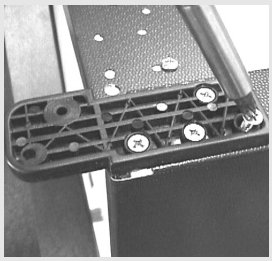

1. Pull out the mains plug.

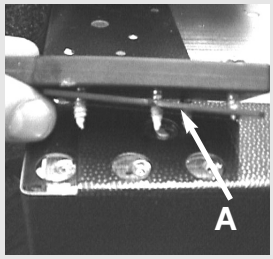

2. Unscrew the door hinge.


3. Remove the door.

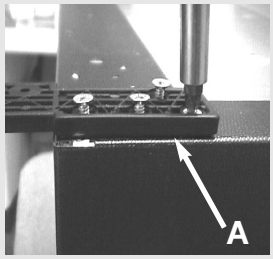

4. Unscrew the middle screw from the lower doorstrip.


5. Mount the magnet (B) at the lower door-strip.The magnet should be directed towards the inside of the miniBar.


6. Unscrew the two lower hinges.

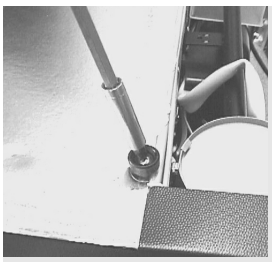


7. Take the distance-plates (A) and put the plates under the hinges .

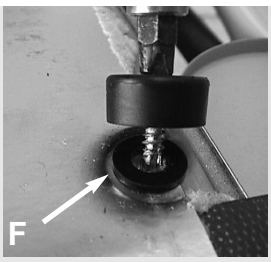


8. Mount the hinges with the distance-plates back on place.

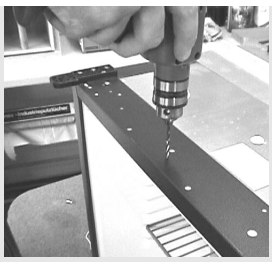
599 4722-38/6 RS 04.03.1999



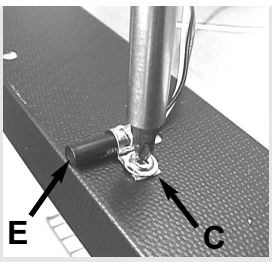
9. Unscrew the two feet.



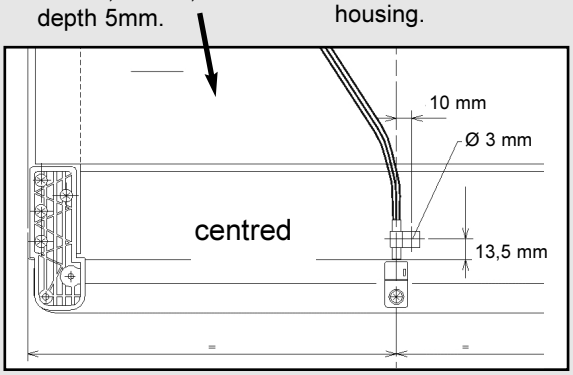
10. Take two plain washers (F) und put the washers under the feet.
Mount the feet back on place.

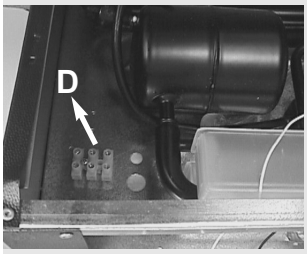


11. Drill a hole for the sensor, ø3mm, depth 5mm.

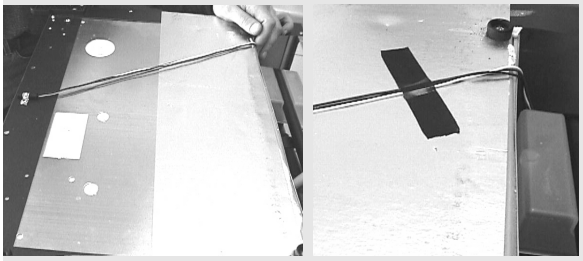


12. Fix the sensor (E) with clip (C), leveled with the housing.

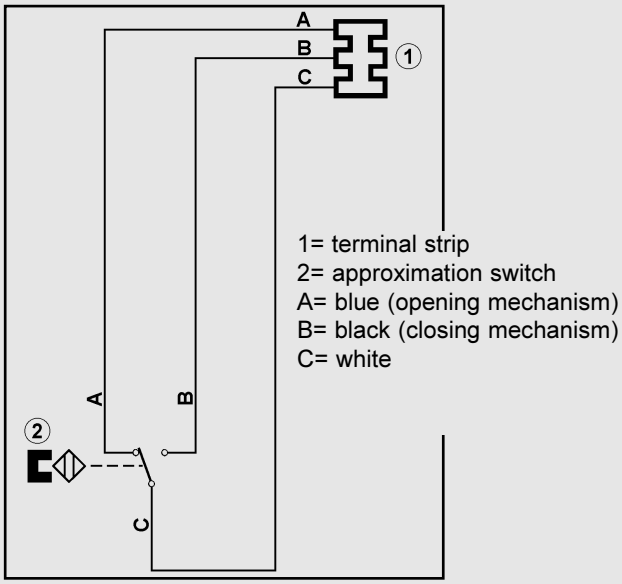




13. Mount the terminal strip (D) on the rear side of the miniBar (Prick two holes in the rear wall for mounting the terminal strip).

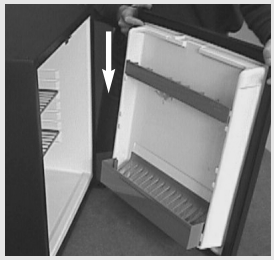


14. Lead the sensor-cable to the terminal strip and fix the cable with scotch tape.



15. Connect the Sensor-cable to the terminal strip.

16. Take the last plain-washer and put it on the lower hinge pin.



17. Mount the door back on place (follow point 2 and 3 backwards).

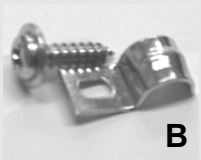
INSTRUCTION

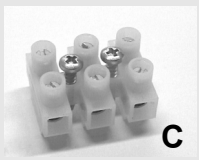
Retrofit “Elelectrical Door Control“
RH 355, RH 356

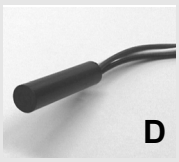
In order to retrofit the electrical door control for the above model, the following service-kit with spare part number 210 6821-30 will be required.

You can order the service-kit at:

Electrolux GmbH
Export department
In der Steinwiese 16
D- 57074 Siegen
Tel.: 0049 271/ 692-0
Fax.: 0049 271/ 629-300



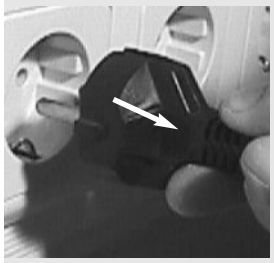




Service-Kit
Spare part number:
210 6821-30

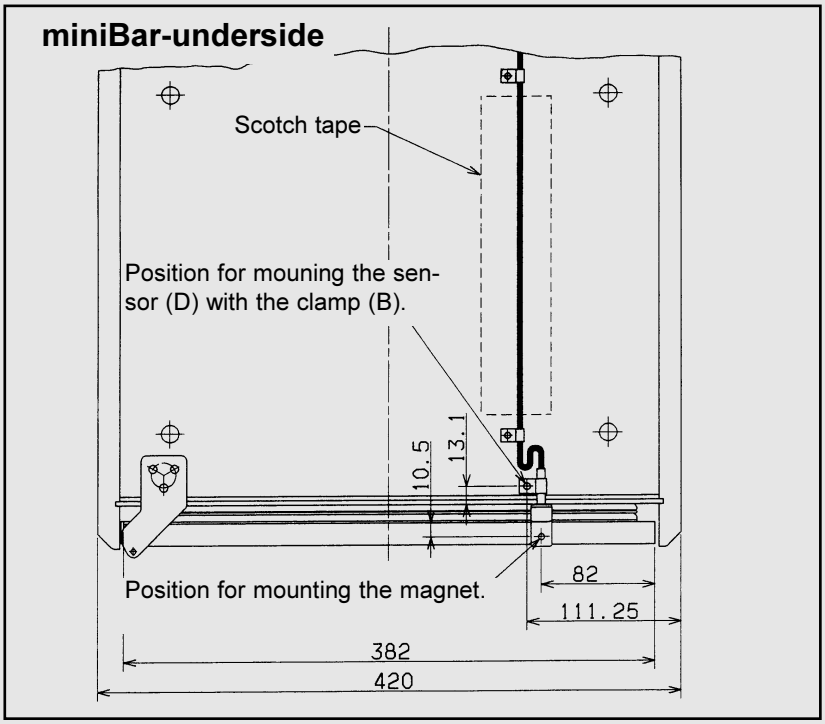
If the minibar is wellappointed with 4 feet (8mm high), replace the 4 feet with new feet (11mm high). Spare part number 295 1182-02.
Attention! The feet are not contain in the service-kit. Order the 4 feet separately. If the miniBar is wellappointed with feet 11mm or higher, the high for the door control is ok.

Mounting the Electrical Door Control

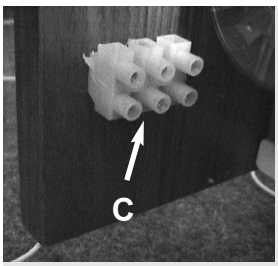


1. Pull out the mains plug.

The magnet should be directed towards the inside of the miniBar.

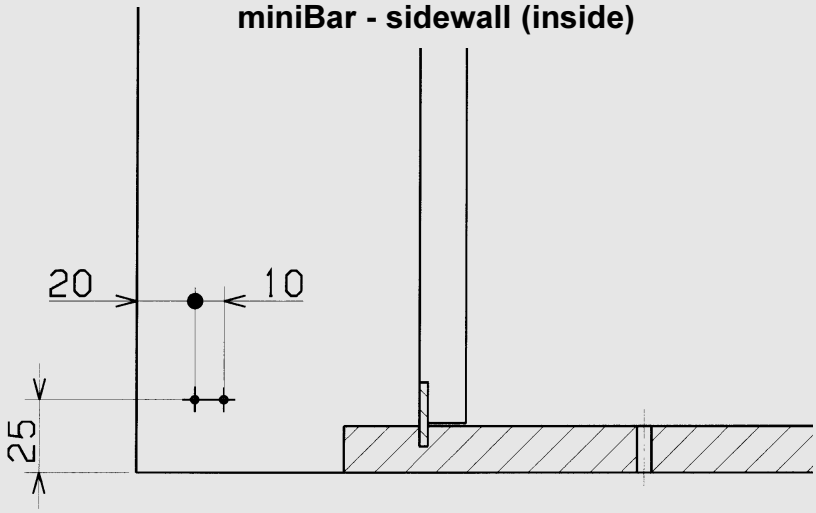


2. Mount the sensor and the magnet.

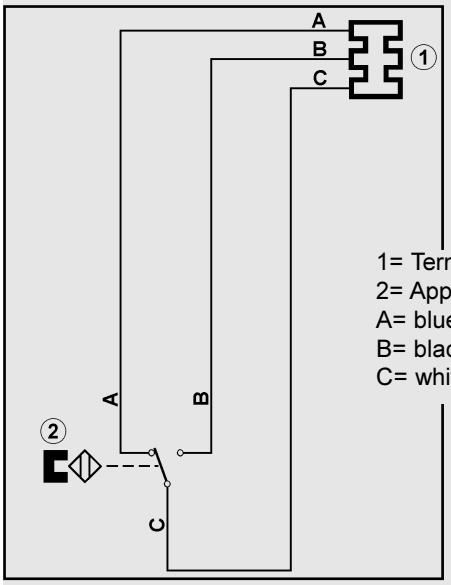


4. Mount the terminal strip (C).

miniBar - sidewall (inside)



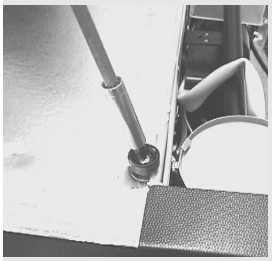
2 x Ø2,2 drillings for mounting the terminal strip.



5. Connect the sensor-cables to the terminal strip.

1= Terminal strip
2= Approximination switch
A= blue (opening mechanism)
B= black (closing mechanism)
C= white

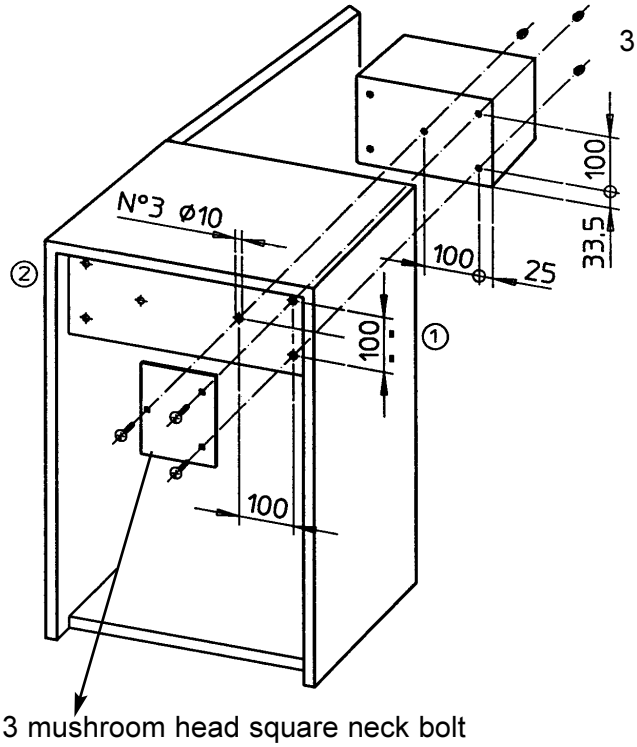
Only for miniBar with feed 8 mm high!



6. Dismantle the 8 mm high feed and mount the feet 11 mm high.

12.0 Mounting a miniSafe in RH355LD/ RH455LD

SKE160



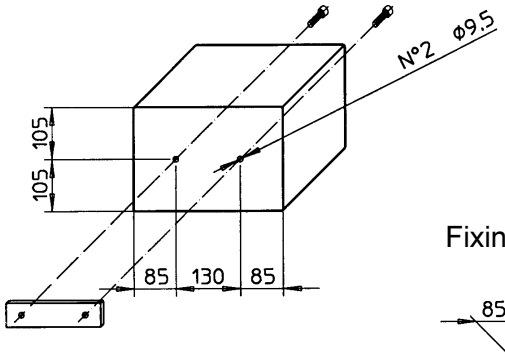
3 cap nuts M8

Drawing picture for right hand hinge (1).
By left hand hinge, 10mm drilling on the opposite (2).

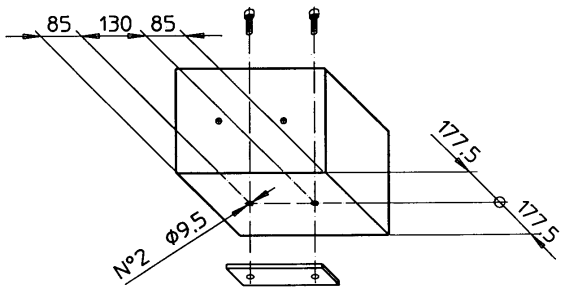
3 mushroom head square neck bolt

SKE 180

Fixing rear side



Fixing underside



13.0 Storing Goods

The statics of the miniBars is aligned with the original condition of the appliance. Changes, e.g. bigger door étagères lead to static changes .
The door could be overloaded.

Example :

No original door étagère used. The overloaded door hangs crookedly and doesn't close.

Any damage due to improper use is not covered by the warranty. The warranty does not cover any modifications to the appliance or the use of non-original Dometic parts; the warranty does not apply if the installation and operating instructions are not adhered to and no liability shall be entertained.

14.0 Troubleshooting

Failure : No cooling (the cooling unit at the back of the appliance is cold)

Possible Cause	Fault Elimination (authorised service provider)
a.) Defective heating shell ?	a.) Measure resistance, replace heating shell if required. 230V / 65 W ~ 800Ω 230V / 80 W ~ 650Ω 110V / 65 W ~ 186Ω 110V / 80 W ~ 150Ω
b.) Defective Air and / or Evaporator-Sensor?	b.) Pull sensor off electrics and check by means of measurement. Ambient Temperature (°C) Resistance (kOhm) 0° 32,51 +/-2% 10° 19,86 +/-2% 15° 15,68 +/-2% 20° 12,48 +/-2%
c.) Defective electronic ?	c.) Plug in and measure voltage applied at heating shell output! After a maximum of 15 seconds, the heating shell will be driven by mains voltage.
d.) The appliance is in defrost mode.	d.) Pull out plug and put back in again.

Failure : No cooling (the cooling unit is warm)

Possible Cause	Fault Elimination (authorised service provider)
a.) Is the appliance level?	a.) Level the appliance using a spirit level.
b.) Has sufficient ventilation been provided ?	b.) See section "Installation 7.0".
c.) Running time to short ?	c.) Leave system running for a few hours.
d.) Defective cooling unit ?	d.) Replace cooling unit and - if required- refrigerator.
e.) Light permanently on when door closed.	e.) Replace lighting sensor. Install new door, if required.

15.0 Energy Saving Tips

- At an average room temperature of approx. 22°C, it is sufficient to operate the miniBar with an average thermostat setting.
- If possible, always store pre-cooled goods.
- Do not expose the miniBar to direct sunlight and do not place it close to a source of heat.
- An unobstructed air circulation in the fridge aggregate must be ensured (ref. chapter “7.0 Installation”).
- When removing goods, only open the miniBar briefly.
- Switch on the miniBar approx. 12 hours prior to stocking.

16.0 Technical Data

Model	RH330LD / EA330L	RH340LD	RH341LD	RH355LD / EA355L
	Built-in	Built-in	Freestanding / Built-in	Freestanding
Casing	Metal	Metal	Metal	Wood
Gross Contents (litres)	30	40	40	55
Cooled / uncooled	30 / -	40 / -	40 / -	35 / 20
Dimensions (mm) (H x W xD)	522x384x412	554x401x446	554x401x449	780x420x445
Electrical Rating (W)	65	65	65	65
Power Consumption kWh / 24h*	0,7	0,8	0,8	0,8
Net Weight (kg)	11	14	15	26

Model	RH356LDE	RH356LD	RH360LD	RH361LD
	Built-in	Freestanding	Freestanding / Built-in	Freestanding / Built-in
Casing	Metal	Metal	Metal	Metal
Gross Contents (litres)	56	56	60	60
Cooled / uncooled	40 / 16	40 / 16	60 / -	60 / -
Dimensions (mm) (H x W x D)	658x450x503	730x450x505	563x486x474	563x486x474
Electrical Rating (W)	65	65	80	80
Power Consuption kWh / 24h*	0,9	0,9	1,0	1,45
Net Weight (kg)	21	21	20	23

Model	RH136D	RH137D
	Freestanding / Built-in	Freestanding / Built-in
Casing	Metal	Metal
Gross Contents (litres)	30	40
Cooled / uncooled	30 / -	40 / -
Dimensions (mm) (H x W x D)	522x384x411	554x401x446
Electrical Rating (W)	65	65
Power Consuption kWh/ 24h*	0,7	0,8
Net Weight (kg)	11	14

* Power consumption measured at an average ambient tempertature of 25°C as an average annual value and at a cooling compartment tempertature of 7°C in line with DIN/EN153.
We reserve the right to make technical modifications to our products without notice!

Model	RH 430LD	RH 440LD	RH 441LD	RH 455LD
	Built-in	Built-in	Freestanding / Built-in	Freestanding
Casing	Metal	Metal	Metal	Wood
Gross Contents (litres)	30	40	40	55
Cooled / uncooled	30 / -	40 / -	40 / -	35 / 20
Dimensions (mm) (H x W xD)	522x384x412	554x401x446	554x401x449	780x420x445
Electrical Rating (W)	65	65	65	65
Power Consumption kWh / 24h*	0,7	0,8	0,8	0,8
Net Weight (kg)	11	14	15	26

Model	RH 456LDE	RH 456LD	RH 460LD	RH 461LD EAW3220
	Built-in	Freestanding	Freestanding / Built-in	Freestanding / Built-in
Casing	Metal	Metal	Metal	Metal
Gross Contents (litres)	56	56	60	60
Cooled / uncooled	40 / 16	40 / 16	60 / -	60 / -
Dimensions (mm) (H x W x D)	658x450x503	730x450x505	563x486x474	563x486x474
Electrical Rating (W)	65	65	80	80
Power Consuption kWh / 24h*	0,9	0,9	1,0	1,45
Net Weight (kg)	21	21	20	23

Model	RH 436D	RH 447D	RH 438D	RH 448D
	Freestanding / Built-in	Freestanding / Built-in	Built-in	Built-in
Casing	Metal	Metal	Metal	Metal
Gross Contents (litres)	30	40	30	40
Cooled / uncooled	30 / -	40 / -	30 / -	40 / -
Dimensions (mm) (H x W x D)	522x384x411	554x401x446	522x384x412	554x401x446
Electrical Rating (W)	65	65	65	65
Power Consuption kWh/ 24h*	0,7	0,8	0,7	0,8
Net Weight (kg)	11	14	11	[illegible]

* Power consumption measured at an average ambient tempertature of 25°C as an average annual value and at a cooling compartment tempertature of 7°C in line with DIN/EN153.
We reserve the right to make technical modifications to our products without notice!

Technical Data miniSafe

miniSafe	SK 160	SKE 160	*SKE 180	*SKE190
Schließsystem	Built-in Mechanical, key	Built-in Electronical, keycode	Built-in Electronical, keycode	Built-in Electronical, keycode
Gehäuse	Steel 2 mm	Steel 2 mm	Steel 2 mm	Steel 2 mm
Tür	Steel 2 mm	Steel 2,5 mm	Steel 5 mm	Steel 5 mm
Volumen (Liter)	6,8	7,0	19	28
Abmessungen (mm) (H x B xT)	167x250x236	160x250x218	210x300x355	240x375x370
Nettogewicht (kg) ca.	7	5,5	10,5	13,3
Notöffnung	Masterkey	Masterkey and electronical Mastercode	Masterkey and electronical Mastercode	Masterkey and electronical Mastercode

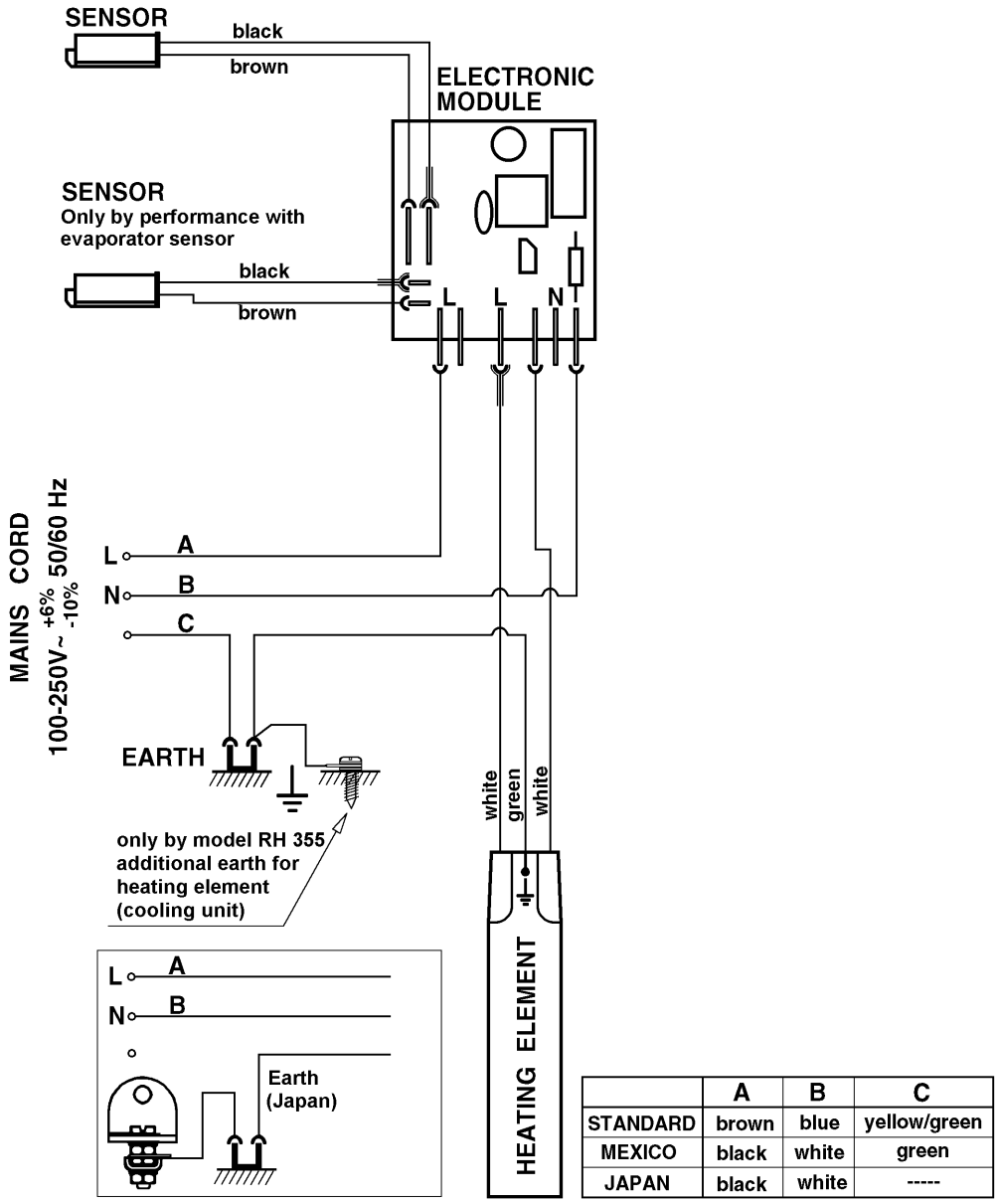
***** socket for charging electronical devices as option.

Subject to change without notice !

17.0 Wiring diagrams

17.1 Refrigerators without Lighting

RH136D, RH137D, RH330D, EA330, RH340D, RH341D, RH 455D, EA 355, RH360D, RH361D, RH437D, RH447D, RH430D, RH440D, RH441D, RH 455D, RH460D, RH461D, EAW3220



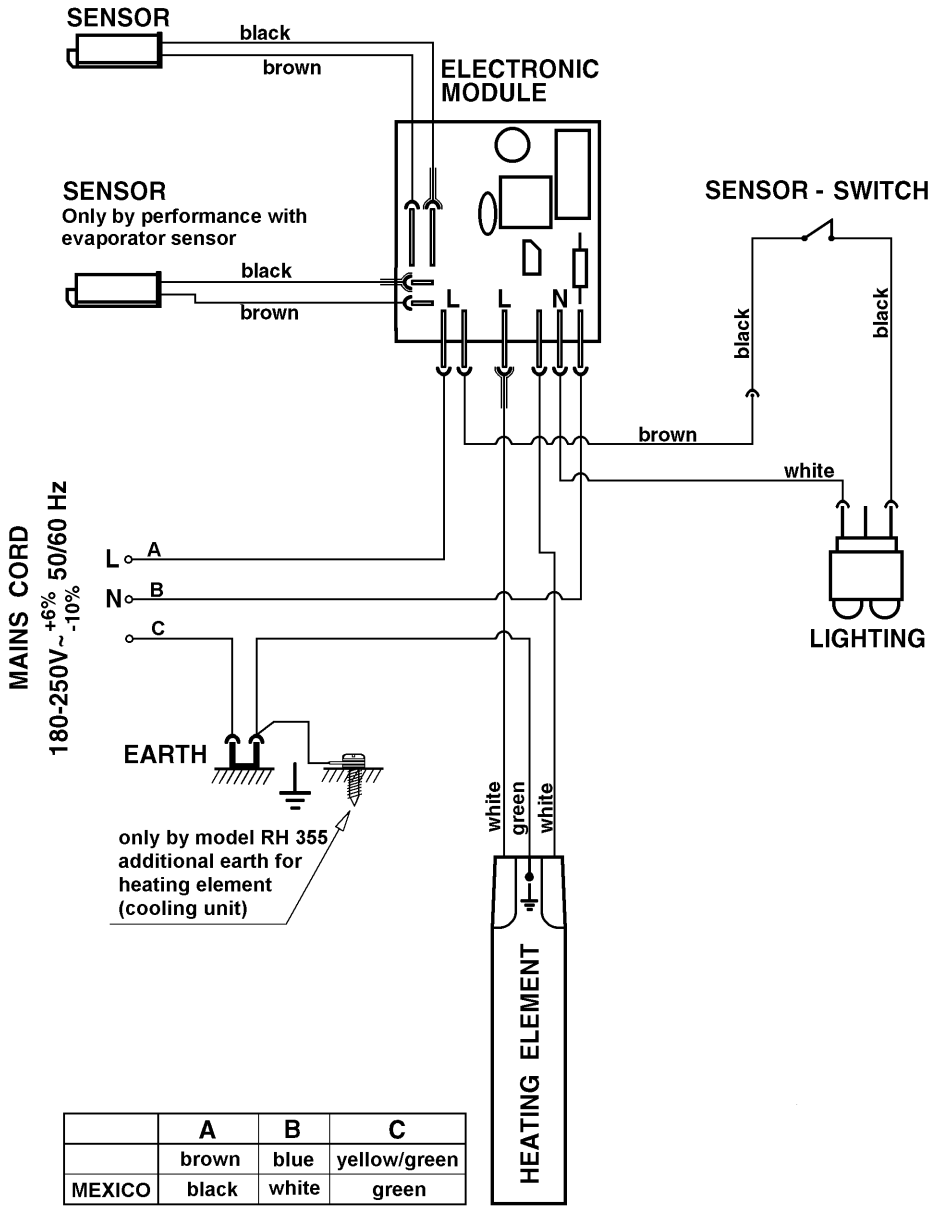
	A	B	C
STANDARD	brown	blue	yellow/green
MEXICO	black	white	green
JAPAN	black	white	-----

RH 136/137 D greenline
RH 330/340/341/355/360/361/430/436/440/441/447/455/460/461 D
EAW 3220

100-250V~ Z.Nr.: 295 2252-01

17.2 Refrigerators with Lighting

RH330LD, EA330L, RH340LD, RH341LD, RH 355LD, EA355L, RH360LD, RH361LD, RH430LD, RH440LD, RH441LD, RH 455LD, RH460LD, RH461LD, EAW3220



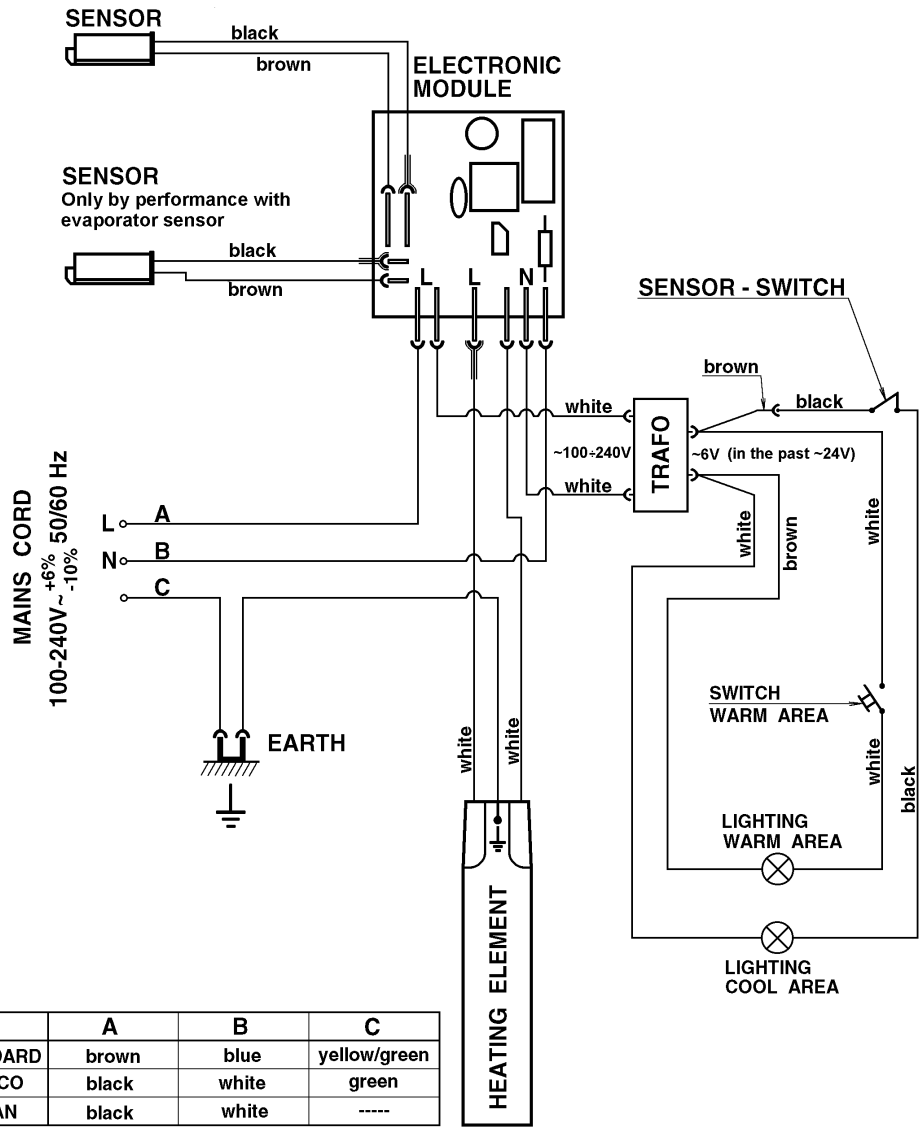
	A	B	C
	brown	blue	yellow/green
MEXICO	black	white	green

RH 136/137 LD greenline
RH 330/340/341/355/360/361/430/436/440/441/447/455/460/461 LD
EAW 3220

180-250V ~ Z.Nr.: 295 2252-00

17.3 Refrigerators with 55l/56l Capacity

RH356LD, RH356LDE, RH456LD, RH456LDE



	A	B	C
STANDARD	brown	blue	yellow/green
MEXICO	black	white	green
JAPAN	black	white	-----

RH 356/456 LD/LDE

100-240V~ Z.Nr.: 295 2357-00

18.0 HiPro Generation

HiPro models are the latest generation of miniBars and consume approximately 15% less energy than the RH4XX models.
Technology and design defined with a new name :
HiPro Technoloy!
HiPro means High-Professional, High-Protection and High-Profitable Technology.

HiPro models:

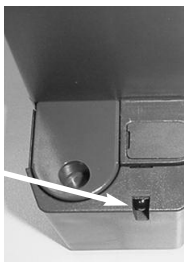
HiPro 3000
HiPro 4000
HiPro 6000

Changes HiPro compared to Face-lifting models:

- absolutely new design with modular shelf and drawer system
- different outer measures
- error detecting via flashing signals
- fixed indoor temperature
- modified cooling unit
- better isolation
- all plugs connected to the electronic are encoded
- door sealing replaceable
- less energy consumption

19.0 HiPro Electronic

After connecting the electronic with the main supply (hard ware reset) following actions take place:
- initialization of the hardware
- values of resistance are read in
- self-test
- initialization of RedDot and function test of cooling unit



Error status is signalised by flashing of the indoor lighting and, if available, the REDDOT_LED.

19.1 Temperature in the HiPro compartment

Set up of the desired cold-storage area temperature.
The cold-storage area temperature is set as follows:

- for Europe 5°C
- for USA 3°C

Cold-storage area temperature can be readjusted with the help of the remote control by via the sensors.

Remote control only for Service and Hotels

blue 3°C

black Reset Cooling-system

yellow 5°C

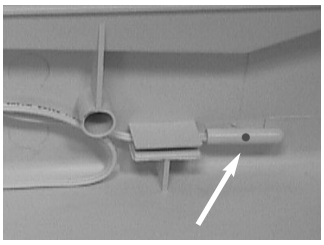
red RedDot Reset

When operated, the electronic measures the temperature of the indoor air sensor (NTC) and controls depending on this, the heating efficiency of the absorber with the help of the HiPro-Electronic .

19.2 Self-test of the electronics

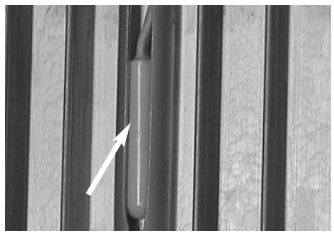
After switching on the supply voltage (Hardware- Reset) the software carries out a selftest, in which the value of resistance of the NTC-sensors (air-sensor, evaporator sensor) are measured.
In case the value of the resistance measuring is not corresponding to the values of resistance fixed by the software, an error is signalized.

Air-Sensor



The air-senosr is mark with a red point!

Evaporator-Sensor



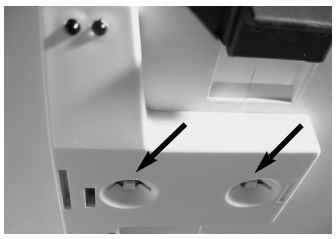
19.3 Automatic fault analysis

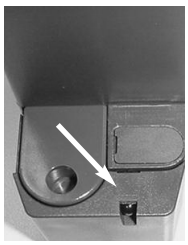
The type of error is signalised through “n” flashing impulses of the inner lighting (P_LIGHT) as well as REDDOT_LED with a frequency of 0.5 Hz, as shown in the following table:

Type of error	**Number of flashing impulses**
general error electronic, power supply	n = 0
everything OK / no poti connected	n = 1
everything OK / poti connected	n = 2
error NTC- Air-Sensor	n = 3
error NTC- Evaporator-Sensor	n = 4
error NTC- Air-Sensor + Evaporator Sensor	n = 5

With the help of a reset you can see the fault signal (n) again.

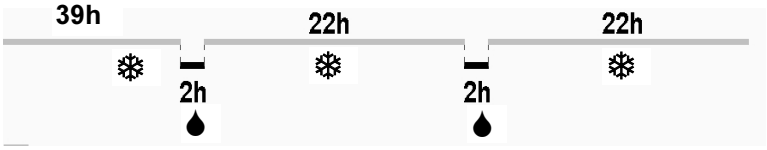
In case an error is recognised (n>2), the temperature adjustment will not be started, and the heating element will not be switched on.
The inner lighting and the “Red-Dot” will flash with ca. 4 Hz.





19.4 Automatic Defrost Function

The HiPro electronic also regulates the automatic defrosting of the refrigerator. When the plug has been stuck to the socket the running time of the refrigerator up to the **first defrosting is 39 hours** For all models the **defrosting takes 2 hours**. **Then the refrigerator works 22 hours and afterwards defrosts 2 hours.**
Therefor the starting of the refrigerators determines the time of defrosting. For example: Starting at 7.00h = first defrosting 22.00h (next day).



19.5 Cooling unit check

In order to carry out the check of the cooling unit, e.g. a leak within the cooling circle, the temperature difference at the evaporator sensor is determined every 40 minutes. If, after finishing the defrost phase the fridge does not reach a cool-down of **4K within 40 min**, a system error exists, and the fridge is switched off.
The system error is saved in the EEPROM and indicated by **permanent flashing** of the indoor lighting as well as the REDDOT_LED with 8 Hz.

System errors are:
- Leak / clogging of the cooling unit
- the HiPro is not balanced
- heating element defective

In service-case the cooling unit is not changeable. You have to install a complete new HiPro miniBar!

19.6 Heating Shell

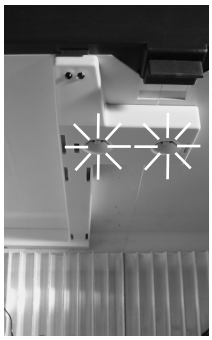
After max. 5 seconds, the heating element is driven with supply voltage and works for 20 seconds. This cycle is repeated for 45 minutes. After this the electronic controls the prefixed temperature.

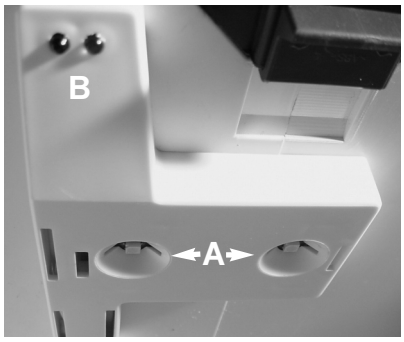
Please see also point 5.0, page 5

20.0 Lighting (ca. 7,6V) and Infrared sensors

Two LEDs (A) light the cooling compartment whilst the door is opened.

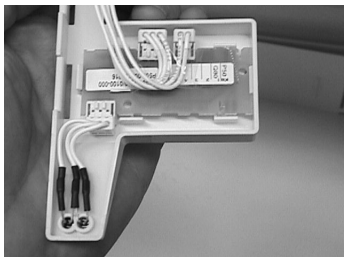
Two sensors (B) control the LEDs as well as the (optional) door control.





Change of lighting / Infrared sensors

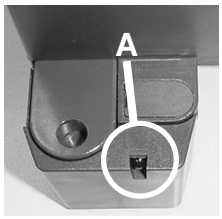
The complete lighting is fastened into the inner housing with a clip and can be pulled off very easily. Detach the plug connections and change the lighting. Same is applicable for the infrared sensors. All plugs are encoded.

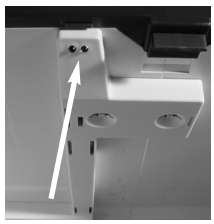


21.0 Automatic Door Control

The LED (**A**) placed at the bottom edge of the minibar indicates whether the miniBar door has been opened.

The electronic contains an infra-red reflecting light barrier for recognition “fridge door was opened”.
For resetting the REDDOT-indicator use the remote control.
The reflecting light barrier is checked every 200 ms.





Infrarot - Sensor

22.0 Operation intervention

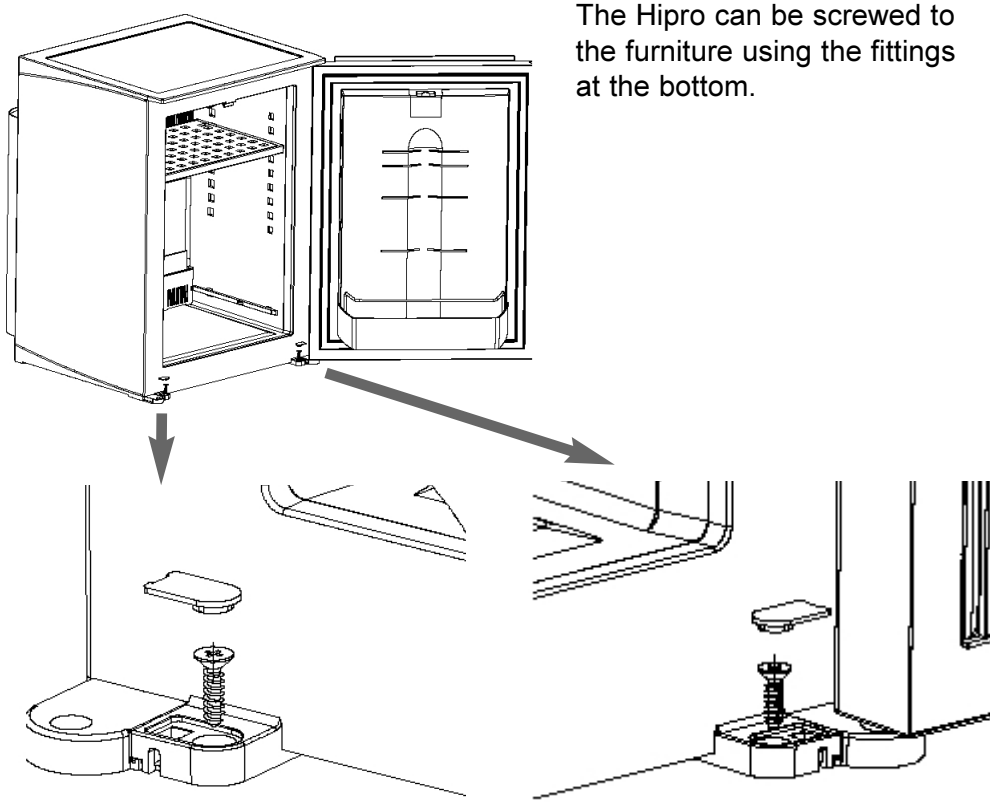
The electronic uses the infra-red reflecting light barrier also for changing the fixed temperature and for resetting the “check-Cooling unit”.

Action	**Reaction**
reset Red- Dot	Red- Dot switches off
fixed temperature 3°C	3 x flashing
fixed temperature 5°C	5 x flashing
reset leak	leak-flash stops

23.0 Installation

refer to point 7.0, page 8

24.0 Securing



The Hipro can be screwed to the furniture using the fittings at the bottom.

Drive in the screws and put the caps back on.

25.0 Changing the Sliding Hinge

refer to point 9.0, page 10

26.0 Energy Saving Tips

- If possible, always store pre-cooled goods.
- Do not expose the miniBar to direct sunlight and do not place it close to a source of heat.
- An unobstructed air circulation in the cooling unit must be ensured (ref. chapter “7.0 Installation”).
- When removing goods, only open the miniBar briefly.
- Switch on the miniBar approx. 12 hours before stocking.

27.0 Manual fault analysis

Failure : No cooling (the cooling unit at the back of the appliance is cold)	
Possible Cause	Fault Elimination (authorised service provider)
a.) Defective heating shell ?	a.) Measure resistance, replace heating shell if required. 230V / 65 W ~ 800Ω 230V / 80 W ~ 650Ω
b.) Defective Air and / or Evaporator-Sensor?	b.) Pull sensor off electrics (air-sensor X9, evaporator-sensor X8) and check by means of measurement. Ambient Temperature (°C) Resistance (kOhm) 0° 27,70 10° 18,07 15° 14,74 20° 12,11 25° 10,00
c.) Defective electronic ?	c.) Plug in and measure voltage at heating shell output (X3)! After max. 5 seconds, the heating shell will be driven by mains voltage **(230V)** for 20 seconds.
d.) The appliance is in defrost mode.	d.) Pull out plug and put back in again.

28.0 Technical Data

Model	**HiPro 3000**	
Casing	Plastic	
Gross Volume (litres)	28	
cooled / uncooled	28 / -	
Dimensions (mm)		
(H x W xD)	527 x 388 x 418	
Electrical Rating (W)	65	
Power Consumption		
kWh / 24h*	0,6	
Net Weight (kg)	12	
Assembly	x	
freestanding	x	

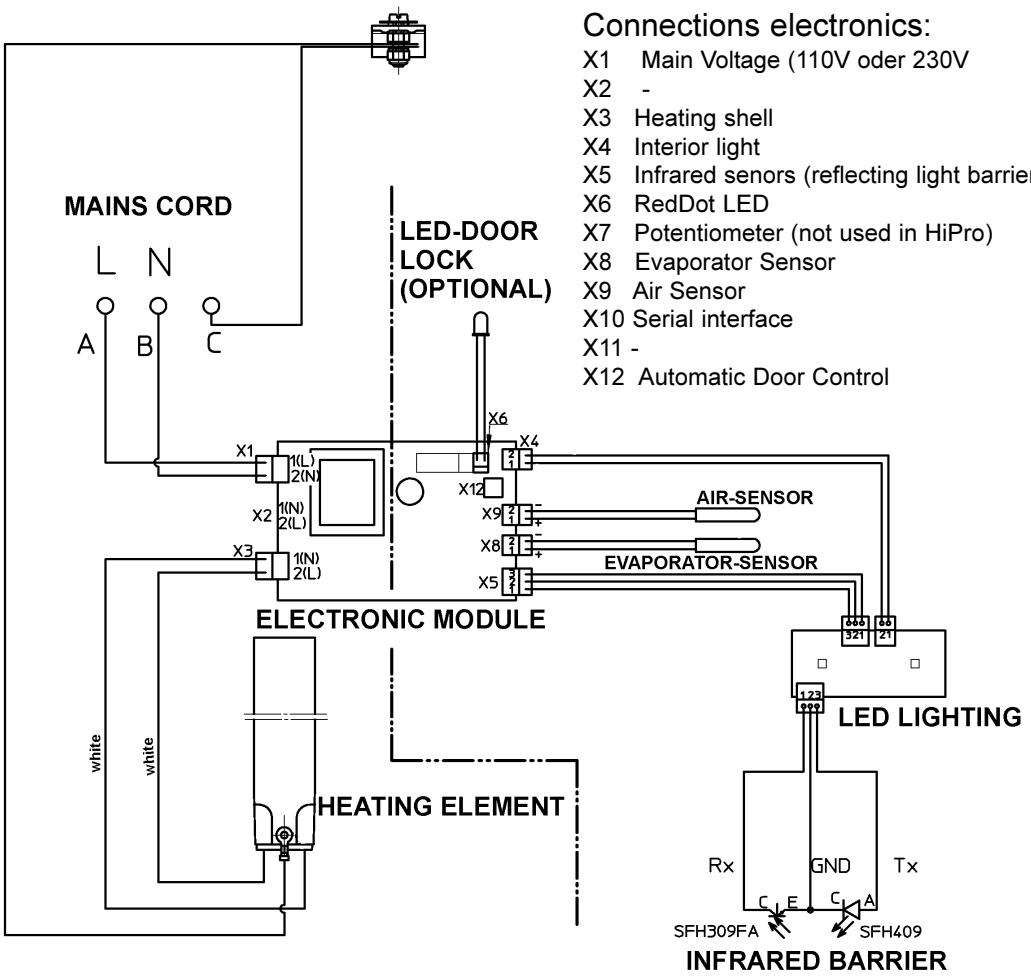
Model	**HiPro 4000**	**with cooling unit cover + feet**
Casing	Plastic	
Gross Volume (litres)	37	
cooled / uncooled	37 / -	
Dimensions (mm)		
(H x W xD)	559 x 405 x 452	601 x 405 x 472
Electrical Rating (W)	65	
Power Consumption		
kWh / 24h*	0,7	
Net Weight (kg)	13.5	14.5
Assembly	x	
freestanding	x	x

Model	HiPro 6000	with cooling unit cover + feet
Casing	Plastic	
Gross Volume (litres)	51	
cooled / uncooled	51 / -	
Dimensions (mm)		
(H x W xD)	568 x 490 x 474,5	610 x 490 x 494,6
Electrical Rating (W)	80	
Power Consumption		
kWh / 24h*	0,9	
Net Weight (kg)	17	18
Assembly	x	
freestanding	x	x

* Power consumption measured at an average ambient temperature of 25°C as an average annual value and at a cooling compartment temperature of 7°C according to EN 153.

We reserve the right to make technical changes and modifications without notice!

29.0 Wiring Diagram/ Occupancy electronics



Connections electronics:
X1 Main Voltage (110V oder 230V
X2 -
X3 Heating shell
X4 Interior light
X5 Infrared senors (reflecting light barrier)
X6 RedDot LED
X7 Potentiometer (not used in HiPro)
X8 Evaporator Sensor
X9 Air Sensor
X10 Serial interface
X11 -
X12 Automatic Door Control

JAPAN	black	white	yellow
USA/MEXICO	black	white	yellow
EU	brown	blue	yellow-green
	A	B	C

Notes

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