Vitrifrigo

IT 02

EN 42

SERIE DW

ISTRUZIONI DI INSTALLAZIONE
USO E MANUTENZIONE

LEGGERE ATTENTEMENTE PRIMA DELL'USO

INSTALLATION USE AND ASSISTANCE MANUAL

DW Series

Read carefully before use

Contents

EN

1 - INTRODUCTION

1.1 – DELIVERY LETTER

DEAR CUSTOMER,

Thank you for choosing a VITRIFRIGO product. We hope that you will be completely satisfied with your purchase.
This manual is considered an integral part of the refrigerator and must accompany it from the time of sale to the end user. Vitrifrigo prohibits the reproduction of any part of this manual.
Before it leaves our factory, every refrigerator undergoes strict tests and inspections to guarantee that it is in perfect working order.
For more information or clarifications, please contact one of our assistance centres or our offices directly.

Please take care to read this manual before using the appliance.
For the safety of the appliance and the operator, all safety devices must be kept in perfect working order.
This sheet serves to certify that at the time of its installation, the devices on board the appliance are all in perfect working order, that the appliance has been delivered together with the user's manual and that the operator will be responsible for following the instructions it contains.

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WARNING
This points to an indication concerning your safety.

Keep this manual safe and available for all operators to consult. Installation must be carried out by qualified persons and according to the instructions provided by the manufacturer.
This appliance must only be used as originally and expressly intended. All other use is to be considered improper.
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
Children must be supervised to ensure that they do not play with the appliance.
The appliance must only be used by specifically trained persons.
All repairs must be performed by a technical assistance centre recommended by the manufacturer and only using original spare parts.
Failure to abide by the above could adversely affect the safety of the appliance.

1.2 – WARRANTY

The appliance and mechanical parts of the machine that are found to be faulty are covered by warranty (see Contractual Provisions). After passing inspection, electrical equipment is not covered by warranty.
During the warranty period, all operations concerning the disassembly or replacement of parts must be carried out under the supervision of specialist technical staff under penalty of rendering the warranty null and void. Damage to the equipment following any use not in line with the intended purpose of the appliance will not be covered by warranty.

1.3 – PRODUCT NAME

This manual contains information concerning "**SERIE DW**" refrigerator models **(12/24 V DC; 115 V AC; 220-240 V AC).** These are drawer refrigerator models with versions equipped for ice maker.

1.4 – HOW TO READ THIS MANUAL

Items not contained
This manual **DOES NOT** contain any sections describing the following:
- Extraordinary maintenance: these operations need to be carried out by persons authorised directly by the manufacture.

Manual layout
This manual consists of several sections, plus contents listing, in order, the section titles, chapters and subjects, plus page number.
Pages are numbered progressively.

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PLEASE NOTE:
Italian is the official language of this publication.

1.5 – NOTES FOR THE USER

Arbitrary changes
It is strictly prohibited for anyone to make changes to the equipment or any part thereof, for any reason whatsoever, without the written permission of the manufacturer.
No agent or representative of the manufacturer is authorised to provide instructions that change the "instructions for use," safety instructions, warranty and/or use of the appliance in any way.
The manufacturer refuses to accept any liability for and warns anyone failing to abide by the above, reserving the right to take action against those found in breach.

User or person assigned to use
The user is responsible for any damage to self, other persons or to property arising from:
- improper use of the machine or any parts of same;
- failure to comply with the safety instructions and accident prevention regulations.

Only qualified operators are allowed to use the machine. Qualified operators are those persons who have:
- read the "instructions for use" in full;
- fully understood the concepts expressed in the publication;

Manufacturer
The manufacturer is not responsible for the consequences of incorrect or improper use of the equipment, such as, for example:
- use of unsuitable raw materials;
- non-conforming methods of use;
- negligence in maintenance, in performing checks during production and in checking the perfect working order of instruments;
- removal or tampering with active or passive safety devices;
- irresponsible behaviour in the light of normal good sense;
- arbitrary changes.

Check of goods
On receipt of the goods, make sure that the material delivered complies with the order and that they contain the "instructions for use".
When the equipment is delivered, make sure that there are no missing pieces or any damage. In case of damage or missing pieces, contact the manufacture or AREA REPRESENTATIVE no later than 24 hours from the date of purchase.

1.6 – INTENDED USE

The appliance is not designed for the constant presence of an operator and therefore, it is a type of unsupervised machine without work station and it is powered automatically and continuously.
The appliance provided may only be used for the items specified in the technical specifications and/or sales agreement (food and drinks).

WARNING
The product provided must only be used for built-in installation.

For any product/application/process that diverges from the above, always seek the written permission of the manufacturer BEFOREHAND.

Improper use
It is prohibited to use the appliance in any way other than described in the "Intended use" chapter.

1.7 – SYMBOLS USED

The following section contains the symbols used in the manual to draw the reader's attention to the different hazard levels involved in the use and maintenance operations for the machine.

WARNING
Any text marked with this symbol contains important information concerning safety and indicates potentially dangerous situations or aspects.

PLEASE NOTE:
Texts marked with this symbol contain notes and further information.

"DISPOSAL" SYMBOL
This symbol on the product or accompanying document indicates that this item must not be treated as domestic waste but it must be taken to a suitable recycling point for electrical and electronic equipment. Dispose of the appliance following the local regulations for waste disposal. For more information on the treatment, recovery and recycling of this product, please contact the relevant local office, the domestic waste collection service or the retailer from which the product was purchased.

1.8 – PERSONAL PROTECTIVE EQUIPMENT (PPE)

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During normal working activities and maintenance interventions, it is necessary to guarantee the provision of the Personal Protective Equipment (PPE) listed below to workers, who must use them:

Protective gloves
Activity involving contact with potentially hazardous parts of the product or its packaging.

Non-slip footwear with reinforced toecaps and non-slip sole.
Presence of slipping hazards on floor, falling of heavy parts.

Eyewear
Projecting shards during machine cleaning operations.

Headset
Hearing protection while working.

WARNING
Personal Protective Equipment must be carefully stored and replaced when damaged.

2 - TRANSPORT

2.1 – TRANSPORT

The appliance is shipped as standard on transport means over land. Special packaging and/or containers are available for specific requirements.

WARNING
Parts packaged in cardboard boxes cannot be stacked.

2.2 – HANDLING AND/OR STORAGE

Transport, hoisting and assembly must be performed by specialist companies in the transport industry; these operations can only be performed in safe conditions with sufficient skills and suitable means.

WARNING
It is recommended to check the condition and quality of the machine and materials against the Packing List or Transport Document.

WARNING
During the loading and unloading stages, stop and block the transporting vehicle.

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2.3 - PACKAGING

Remove the product packaging.

Wear cut-proof gloves. Take care not to injure hands or damage the product.

Never throw any parts of appliance packaging in standard waste: packaging must be sorted according to the type of material (cardboard, wood, steel, polyester, etc...) and dispose of it according to the regulations in force in the country of machine use.

3 - MODELS

3.1 – DRAWER VERSION

The following table shows the different types of version for the models with two compartments (fig.3.1.1) or single compartments (fig. 3.1.2). The letters "*IM" shows the possibility to insert an ICE MAKER into the compartment.

	1 DRAWER	2 DRAWERS
RF	fridge	fridge
		fridge
DT	-	freezer *IM
		fridge
BT	freezer *IM	freezer *IM
		freezer

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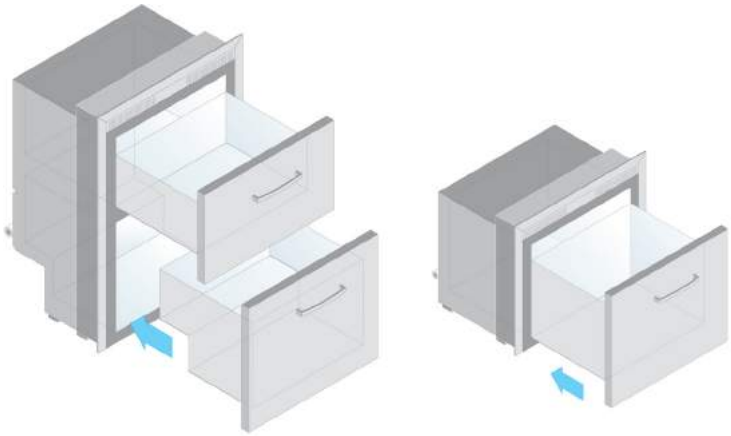


Fig. 3.1.1-3.1.2

3.2 – COMBINED VERSION

The following table shows the different combined versions (fig. 3.2.1).

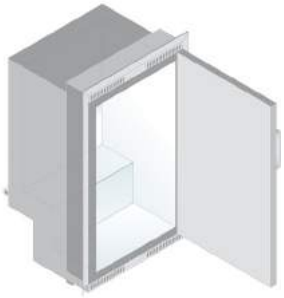
Ventilated	Ventialted with 1 drawer module	Ventialted with 2 drawer module
		

Fig. 3.2.1

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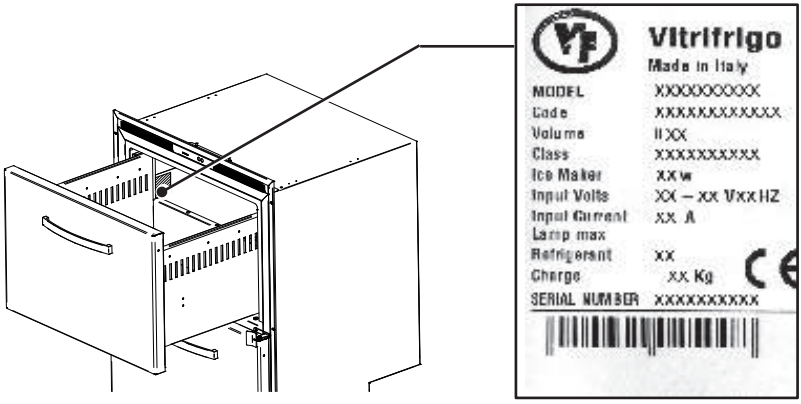
4 – INTRODUCTORY INFORMATION

4.1 – IDENTIFICATION LABEL

Whenever communicating with the manufacturer or assistance centres, always quote the SERIAL NUMBER of the machine on the identification label (fig. 4.1.1). The label also states all of the technical specifications of your refrigerator.

Fig. 4.1.1



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GB	I - traduzione
MODEL	MODELLO
CODE	CODICE
VOLUME	VOLUME
CLASS	CLASSE
ICE MAKER	FABBRICATORE DI GHIACCIO
INPUT VOLTS	TENSIONE NOMINALE
INPUT CURRENT	CORRENTE ASSORBITA
LAMP MAX	POTENZA MASSIMA LAMPADINA
REFRIGERANT	REFRIGERANTE
CHARGE	CARICA
SERIAL NUMBER	NUMERO SERIALE

4.2 – DW MODEL DESCRIPTION

FIG. 4.2.1		FIG. 4.2.2		FIG. 4.2.3	
A	Top drawer	A	Control unit	A	Drip tray version"DT"
B	Bottom drawer	B	Compressor	B	Drip tray version"RF"
C	Thermostat	C	Fan		
D	Basket/Racks	D	Condenser		
E	Racks				
F	Fixing bracket				
G	Handles				

Fig. 4.2.1

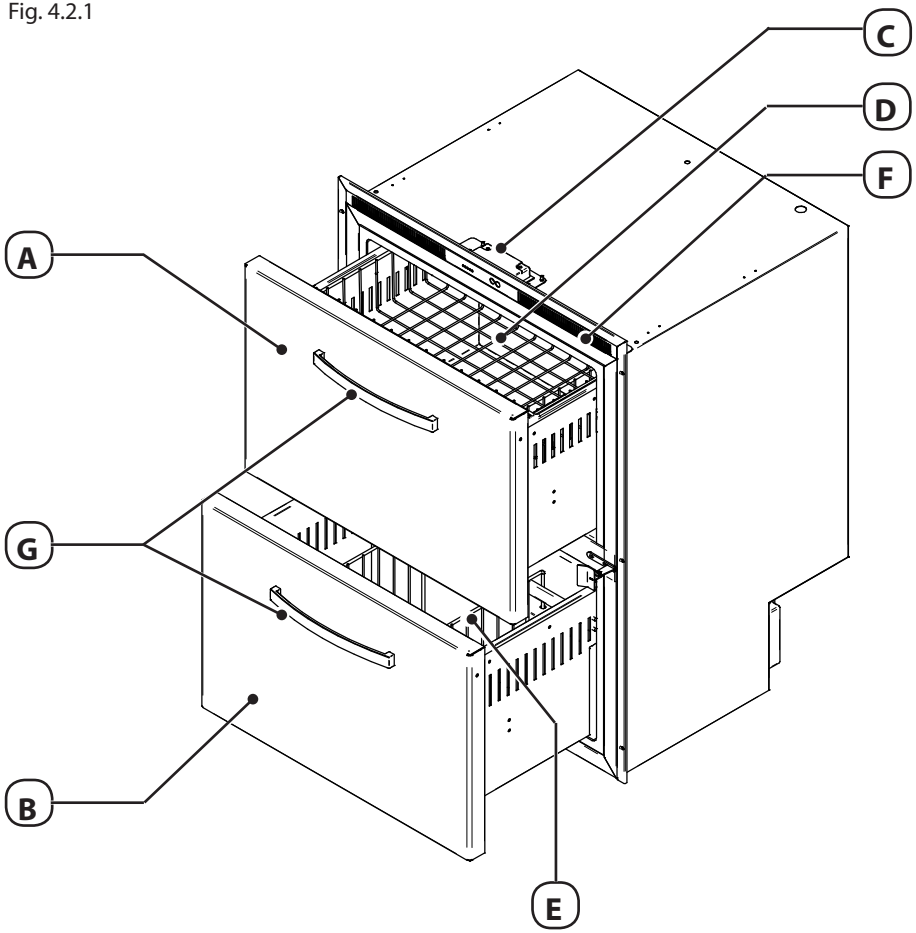

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Fig. 4.2.2

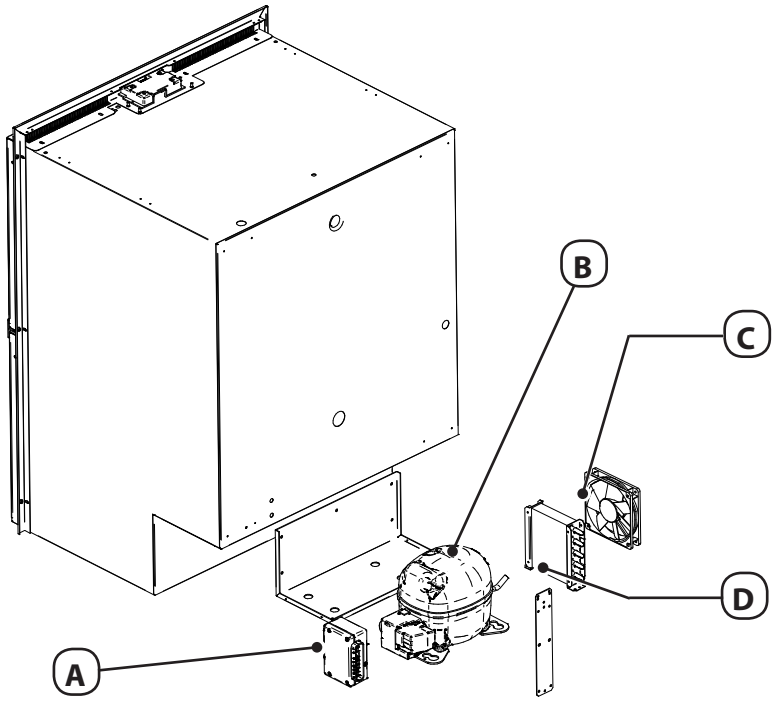

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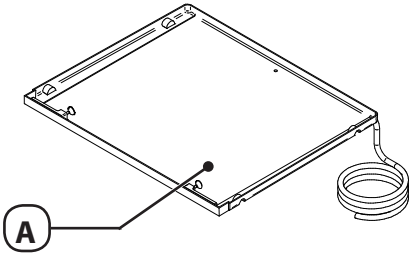
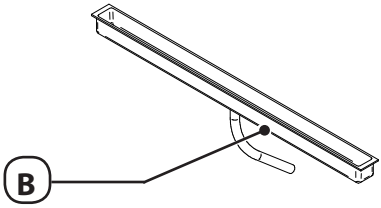
Fig. 4.2.3





4.3 – DW-IM MODEL DESCRIPTION

FIG. 4.3.1		FIG. 4.3.2		FIG. 4.3.3		FIG. 4.3.4	
A	Top drawer	A	Water filler pipe	A	Ice cube maker	A	Drip tray version "DT"
B	Bottom drawer	B	Electronic board	B	ice cube maker ON "I" / OFF "0"		
C	Thermostat	C	Protection				
D	Basket/Racks	D	Solenoid valve				
E	Racks	E	Compressor				
F	Fixing bracket	F	Condenser				
G	Handles	G	Fan				
H	Ice hopper	H	Protector-Relay				

Fig. 4.3.1

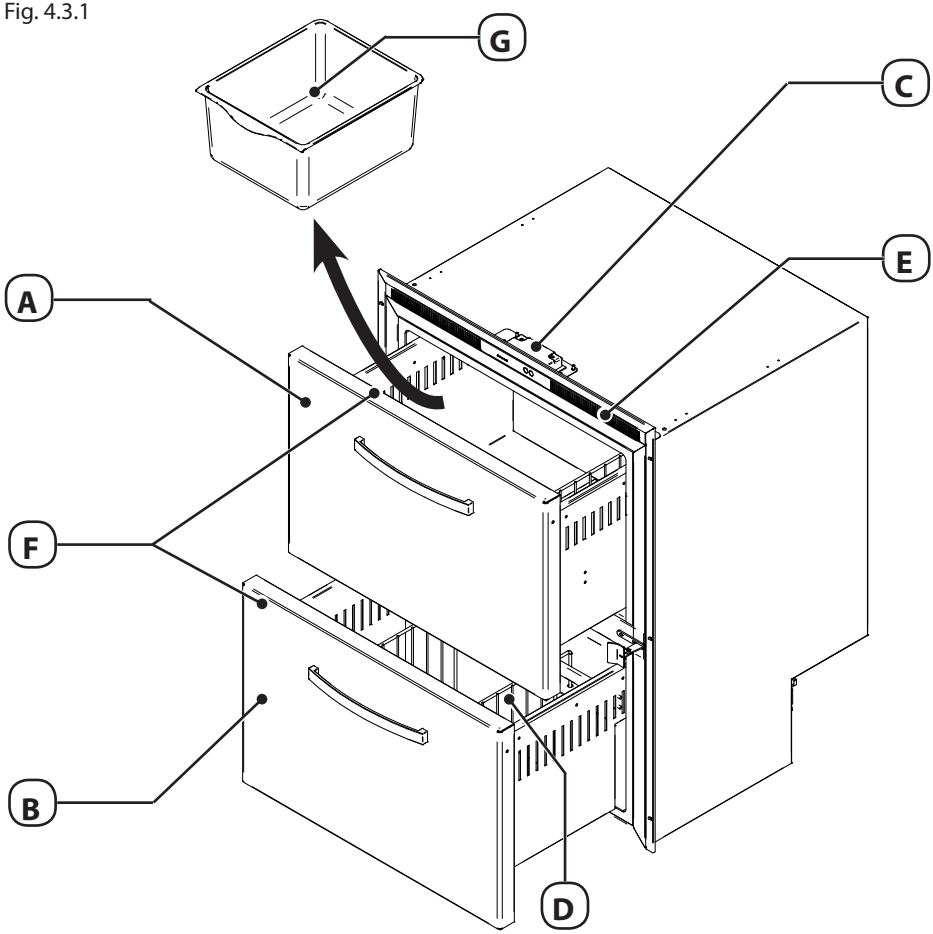


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Fig. 4.3.2

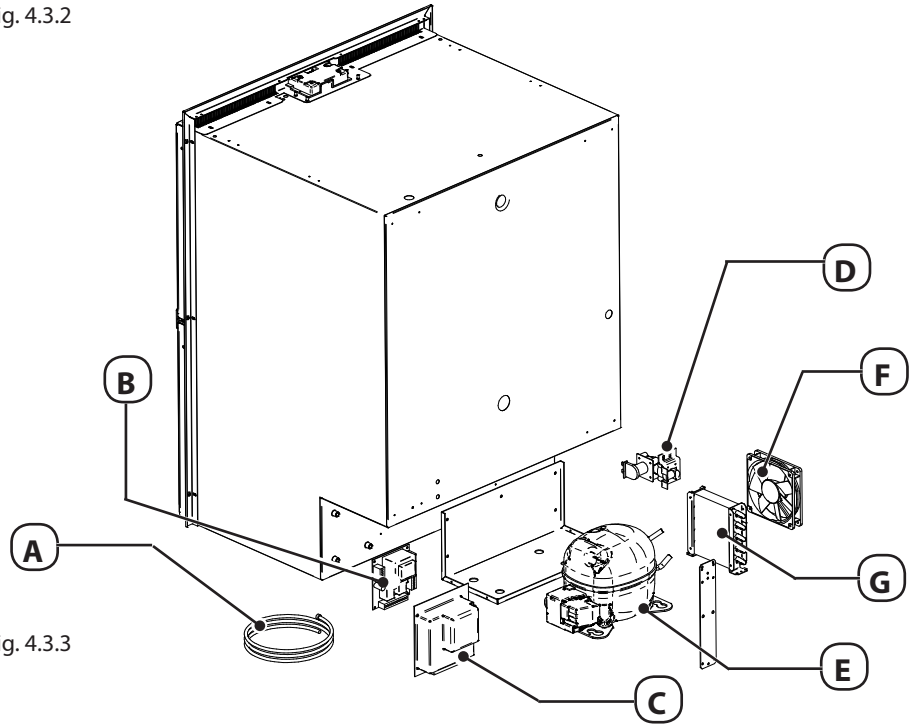


Fig. 4.3.3

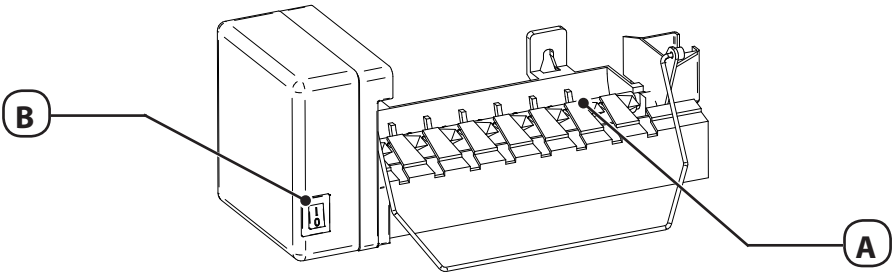
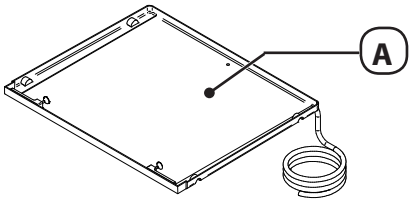


Fig. 4.3.4



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4.4 – VENTILATED MODEL DESCRIPTION

FIG. 4.4.1		FIG. 4.4.2	
A	Shelf	A	Control unit
B	Glass shelf	B	Compressor
C	Salad compartment	C	Fan
D	Evaporator fan	D	Condenser
E	Light		
F	Door shelves		
G	Thermostat		

Fig. 4.4.1

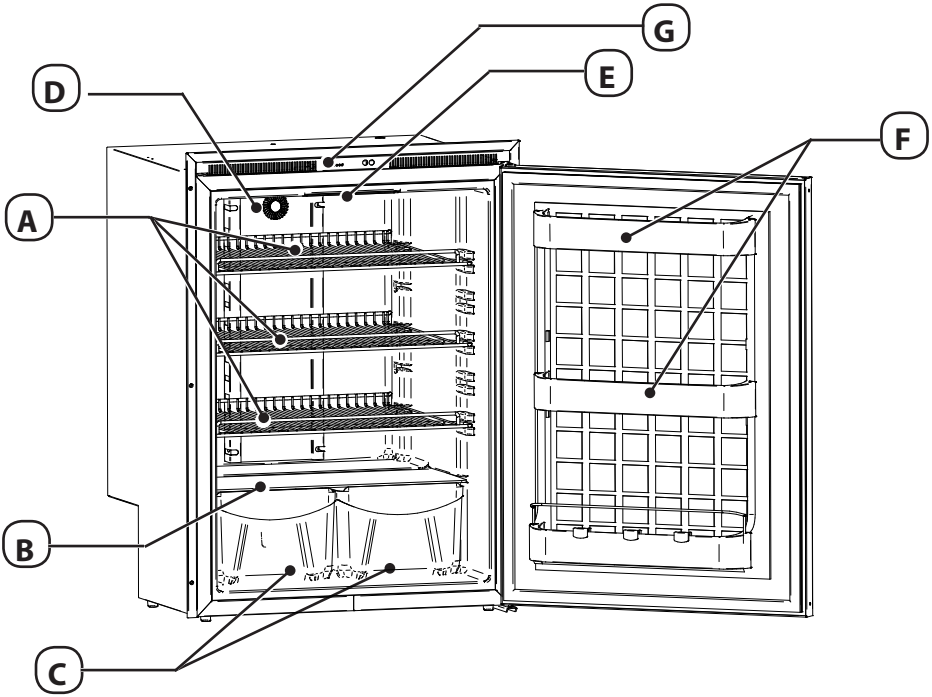

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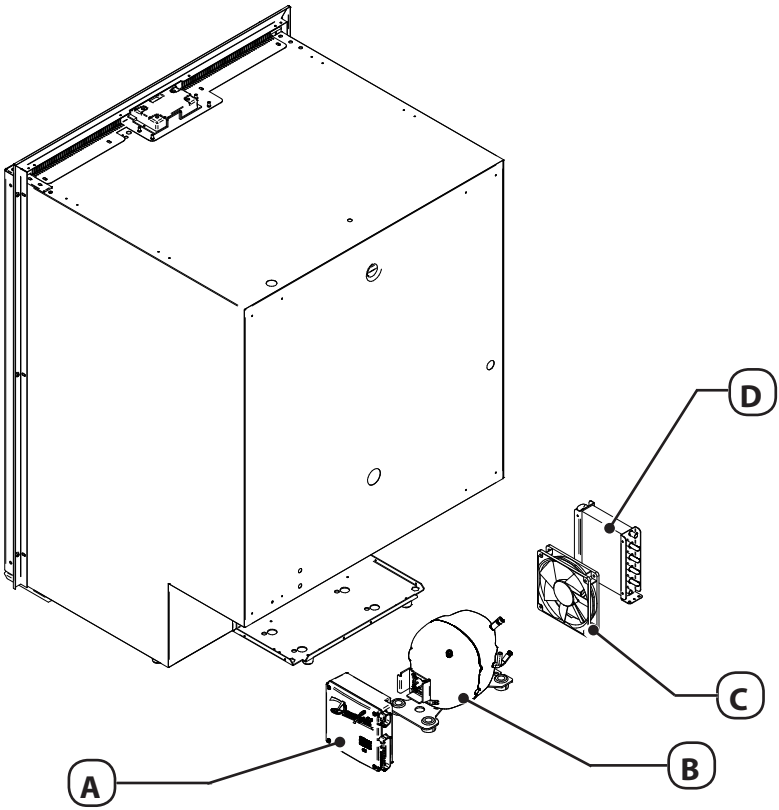
Fig. 4.4.2



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5 - INSTALLATION

5.1 - INSTALLATION

PPE MUST BE WORN
Handle the product with the utmost care and wear suitable personal protective equipment compliant with legal standards.

WARNING
Before connecting the appliance, make sure that the mains voltage is the same as
stated on the appliance rating plate or on the
rating plate of the compressor.

When positioning the refrigerating unit (on refrigerating units with remote refrigerating unit), proceed with care to prevent the occurrence of blockages or breakages along the connecting pipes.

Always ensure that the refrigerator and remote refrigerating unit (where supplied) are installed on a flat surface (Fig. 5.1.1).
Make sure that the refrigerating unit has enough ventilation by cutting two holes in the cupboard that will accommodate the refrigerator: one at the bottom next to the refrigerating unit and the second in the top or on the upper half of the side (Fig, 5.1.2).

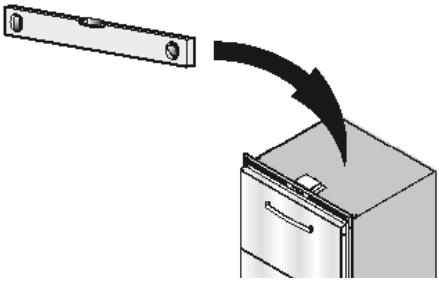
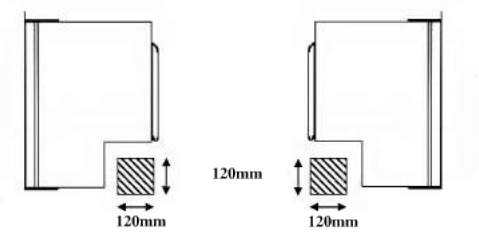


Fig. 5.1.1

The openings must have an area of at least 300 cm^2. If this is not possible, leave a gap of at least 50 mm between the refrigerator top and the top above it.
Create two side air vents, as shown in the figure.

WARNING !
IT IS NECESSARY TO CREATE TWO SIDE AIR INTAKES WHERE THE COMPRESSOR UNIT IS PLACED TO AVOID ITS OVERHEATING AND TO ACHIEVE THE UNIT PROPER FUNCTIONING.



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WARNING
Keep the air vents in the appliance casing and/or cabinet for built-in installation free from obstruction.

Using the special screws, continue to fit the refrigerator in the cabinet, inserting the screws into the holes along the fastening profile (Fig. 5.1.3).
Install the refrigerator away from heat sources in dry and well-ventilated surroundings.

Fig. 5.1.3

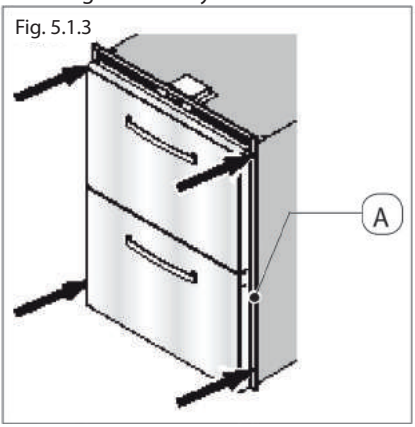
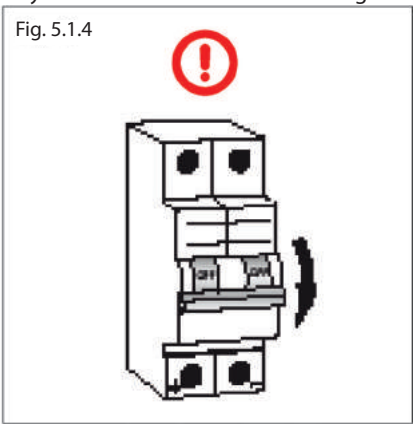


Fig. 5.1.4



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WARNING
After completing the installation, make sure that the appliance is not resting on the
power cable.

PLEASE NOTE:
Leave the appliance idle for at least one hour before putting it into operation. During
this time, it is possible to carry out the initial cleaning operations.

5.2 – TYPE OF BUILT-IN INSTALLATION

Total
A total built-in installation required the handle of the "boxed" type that is flush with the door.

Partial
Partial built-in installation, the "Door Outside" format, which is standard for the whole range, requires the satin-finish stainless steel handle, while the door is protected against accidental opening by the "Pin Lock" and "Pad Lock" systems.

5.3 – ELECTRICAL CONNECTION

WARNING
Before connecting the refrigerator, make sure that there is an efficient earthing system, compliant with European Standards (EN).

WARNING
Before making any wiring connection, make sure that the main breaker is off (OFF) (Fig. 5.1.4).

PLEASE NOTE:
For correct connection see the attached wiring diagram accompanying this manual.

5.3.1 - INSTRUCTIONS FOR CONNECTION TO MAINS POWER (AC and DW- IM models only)

Prepare the V AC power supply line using a three-pole cable with a minimum section per conductor of 1 sq mm, suitable insulation for the intended use and environment and compliant with the standards in force.
Make sure there is an access point to mains electricity near to the appliance and that the mains system has been fitted with a differential thermomagnetic omnipolar switch (6 A). The mains voltage needs to be the same as that listed on the rating label inside the appliance. The refrigerator has a power cord, provided with or without plug: if there is a plug, connect the cap to a socket compliant with the current standards and in a place that is easily accessible; if there is no mains connection, fit a bipolar switch (compliant with standards) with a distance between switch contacts of no less than 3mm (accessible). This installation and electrical connection must be performed to comply with standards by a specialised technician.
At the end of the installation, check the continuity of the earthing circuit and carry out all of the electrical safety tests envisaged in current standards.
Protect the power cords and secure them in place to prevent anything from pulling them out of connections or allowing them to come into contact with temperatures over 50°C or sharp parts.
If the power cord is damaged, it must be replaced by the manufacturer or the manufacturer's technical assistance service or in any case, by a person with a similar qualification so as to prevent any risk.

WARNING
Theinstallation of power lines must be carried out by qualified persons who can check the system's compliance with current regulations and issue the relevant conformity certification.
The manufacturer hereby refuses to accept any liability for damages to people or property arising from the failure to respect this regulation.

EN

PLEASE NOTE:
You are legally obliged to earth the system. Make sure that the electrical system earthing installation is in perfect working order.
The manufacturer hereby refuses to accept any liability for damages to people or property arising from the failure to respect this regulation.

The use of adapters, multiple sockets, or extension leads is not recommended. Should it be necessary to use one of the latter, always use materials that conform to the safety standards in force and take care not to exceed the current capacity limits stated on the materials themselves. In the event that the appliance plug is not compatible with the socket, it is preferable to replace the socket with another, more suitable type.
A qualified technician, who must ensure that the socket wiring is suitable for the electrical input of the machine, must carry out this operation.

5.3.2 – INSTRUCTIONS FOR BATTERY CONNECTION (models equipped for DC power only)

WARNING
connect the 12 V DC or 24 V DC power line, where present, directly to the battery, abiding by the following instructions.

EN

TAB. 04 - STANDARD BATTERY PROTECTION SETTINGS			
12 v cut- out v	12 v cut- in v	24 v cut- out v	24 v cut- in v
12 v stacco v	12 v attacco v	24 v stacco v	12 v attacco v
10.4	11.7	22.8	24.2

TAB. 05 – WIRE DIMENSIONS: CONNECTION FROM BATTERY TO ELECTRONIC UNIT		
Section mm²	Max. length m 12 V line	Max. length m 24 V line
2.5	2.5	5
4	4	8
6	6	12
10	10	20

5.4 – INSTRUCTIONS FOR DANFOSS BD35/BD50F 12-24 V DC

The electronic control unit is a dual voltage device. This means that the same unit can be used in both 12 V and 24 V
power supply systems. The maximum voltage for 12 V systems is 17 V, while for 24 V systems it is 31.5 V. The maximum ambient temperature allowed is 55°C. The electronic control unit has an incorporated thermal cut-out device that will enter into operation by stopping the compressor in the event of overheating.
Installation (fig. 5.4.1)
Connect the terminal plug from the electronic unit to the compressor terminal. Fit the unit on

the compressor by snapping the cover over the screw head (1).

Power supply (fig. 5.4.1)

The electronic unit must always be connected directly to the battery poles (2). Connect the plus to + and the minus to -, otherwise the electronic unit will not work. The electronic unit is protected against reverse battery connection. For protection of the installation, a fuse (3) must be fitted to the + cable as close to the battery as possible. It is recommended to use 15 A fuses for 12 V and 7.5 A fuses for 24 V circuits. If a main switch (4) is used, it should be rated to a current of min. 20 A. The wire dimensions in Fig. 5 must be observed. Avoid extra junctions in the power supply system to prevent voltage drops from affecting the battery protection setting.

Battery protection (fig. 5.4.1)

The compressor is stopped and re-started again according to pre-established voltage limits measured on the + and - terminals of the electronic unit. The standard settings for 12 V and 24 V power supply systems appear in fig. 5.4.3. Other settings (fig. 5.4.4) are optional if a connection which includes a resistor (9) is established between terminals C and P. In solar applications without a battery a 220 kW resistor is recommended. In AEO (Adaptive Energy Optimizing) speed mode the BD compressor will always adapt its speed to the actual cooling demand within a random operation voltage of 9.6 to 31.5 V.

Thermostat (5.4.1)

The thermostat (7) must be connected as described in chapter 10.

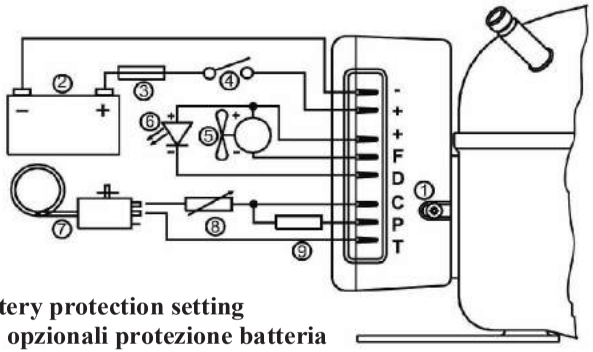
LED (optional, fig. 5.4.1)

It is also possible to connect a 10 mA LED diode (6) between the + terminals and D. If the electronic control unit should detect an operating error, the diode will flash for a certain number of times. The number of flashes depends on what kind of operational error was recorded. Each flash will last ¼ second. After the actual number of flashes there will be a delay with no flashes, so that the sequence for each error recording is repeated every 4 seconds.

EN

No. FLASHES	ERROR TYPE
5	**Electronic unit thermal stop.** If the cooling system has been overloaded or the ambient temperature is too high, the control unit will overheat.
4	**Insufficient motor speed.** If the cooling system is overloaded, the motor is no longer able to maintain a minimum speed of 1,850 rpm
3	**Motor start error.** The motor is blocked or the differential pressure of the cooling system is too high (> 5bar).
2	**Fan stop due to overcurrent.** The fan has a power input from the electronic control unit of more than 1App
1	**Battery protection stop.** The power voltage is outside the set disconnect value.

fig. 5.4.1



Optional battery protection setting
Impostazioni opzionali protezione batteria

Resistor (9) kΩ	12V cut-out V	12V cut-in V	12V max. Voltage	24V cut-out V	24Vcut-in V	24V max Voltage
Resistore (9) kΩ	12V stacco V	12V attacco V	Max tensione a 12V	24V stacco V	24V attacco V	Max tensione A 24V
0	9.6	10.9	17.0	21.3	22.7	31.5
1.6	9.7	11.0	17.0	21.5	22.7	31.5
2.4	9.9	11.1	17.0	21.8	22.9	31.5
3.6	10.0	11.3	17.0	22.0	23.2	31.5
4.7	10.1	11.4	17.0	22.3	23.4	31.5
6.2	10.2	11.5	17.0	22.5	23.7	31.5
8.2	10.4	11.7	17.0	22.8	23.9	31.5
11	10.5	11.8	17.0	23.0	24.2	31.5
14	10.6	11.9	17.0	23.3	24.5	31.5
18	10.8	12.0	17.0	23.6	24.7	31.5
24	10.9	12.2	17.0	23.8	25.0	31.5
33	11.0	12.3	17.0	241	25.2	31.5
47	11.1	12.4	17.0	24.3	25.5	31.5
82	11.3	12.5	17.0	24.6	25.7	31.5
220	9.6	10.9			26.0	31.5

fig. 5.4.4

Wire dimensions
Dimensioni cavi fig. 5.4.2

Cross section mm²	Max length* m 12V operation	Max length* m 24V operation
Sezione mm²	Max. lunghezza* m funzionamento a 12V	Max. lunghezza* m funzionamento a 12V
2.5	2.5	5
4	4	8
6	6	12
10	10	20

Lenght between battery and electronic unit
Lunghezza tra la batteria e l'unità elettronica

Standard battery protection setting
Impostazioni standard protezione batteria fig. 5.4.3

12V cut-out V	12V cut-in V	24V cut-out V	24V cut-in V
12V stacco V	12V attacco V	24V stacco V	24V attacco V
10.4	11.7	22.8	24.2

Compressor speed
Velocità compressore fig. 5.4.5

Resistor (8) Ω	Motor speed rpm	Contr.Circ. Current mA
Resistore (8) Ω	Velocità motore giri/min	Corrente circuito controllo mA
Does not apply Non applicare	2000	5
RED/ROSSO	2500	4
BLACK/NERO	3000	3
YELLOW/GIALLO	3500	2

5.5 - DANFOSS BD35/BD50F 12-24 V DC INSTRUCTIONS

The electronic unit is a multi voltage device. It can be used with 12V/24 V DC and 100-240 V AC 50/ 60Hz systems. The maximum voltage for 12V DC systems is 17 V DC, while for 24 V DC systems it is 31.5 V DC. In case of AC power, the maximum voltage is 265 V AC, while the minimum is 85 V AC. The maximum ambient temperature is 55°C. Theelectronic unit has incorporated thermal insulation to stop and start the compressor if the unit temperature gets too high (100°C / 212°F on the printed circuit). Power input is limited to 100 W (see bD50F technical data sheet for details).

Installation (fig. 5.5.1)

Connect the terminal plug from the electronic unit to the compressor terminal. Fit the electronic unit on the compressor by snapping the cover over the screw head (1).

Power supply (fig. 5.5.1)

DC: The electronic control unit must always be connected directly to the battery poles (2). Connect the plus to + and the minus to -, otherwise the electronic unit will not work. The electronic unit is protected against reverse battery connection. For protection of the installation, a fuse (3) must be fitted to the + cable as close to the battery as possible. It is recommended to use 15 A fuses for 12 V circuits and 7.5 A fuses for 24 V circuits. If a main switch (4) is used, it should be rated to a current of min. 20 A. The wire dimensions in Fig. 5.5.2 must be observed. Avoid extra junctions in the power supply system to prevent voltage drops from affecting the battery protection setting.

AC: The wires must be connected to the terminals marked L and N on the electronic unit. Rated voltages from 100 to 240 V AC 50/60 Hz. Safety breaker: upper limit =
270 V AC, lower limit = 80 V AC. A 4 A fuse must be fitted to the live (L) cable to protect the installation. If a main switch is used, it should be rated to a current of min. 6 A. The wire dimensions must be min. 0.75 mm2 or AWG
18. NB: An earth connection can be used if required.

General: Both the AC and the DC power supply can be connected to the electronic unit at the same time. In this case, AC will be the preferred power supply source. If the AC power supply is disconnected or drops below 85 V AC, the 12 V DC supply system will enter into operation after a time delay of 1 min. If the AC power supply is re-established there will be no delay in compressor operation.

Battery protection (fig. 5.5.1)

The stopping and re-starting of the compressor depend on the settings for the voltage limits measured on the + and – terminals of the electronic control unit. The standard settings for 12 V and 24 V power supply systems appear in fig. 5.5.3. Other settings are optional if a connection which includes a resistor (9) is established between terminals C and P.

Thermostat (fig. 5.5.1)

The thermostat (7) must be connected as described in chapter 10.

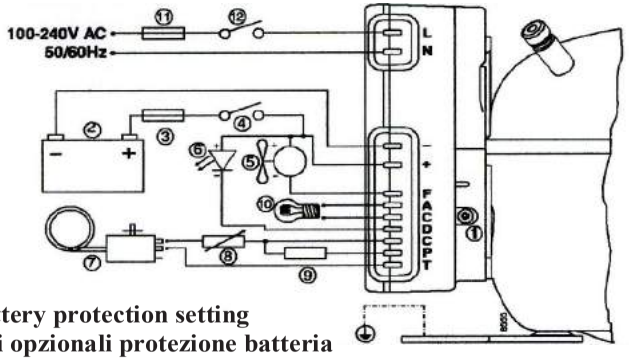
Fan (optional, fig. 5.5.1)

A fan (5) can be connected between the terminals + and F. Connect the plus to + and the minus to F. Since the output voltage between the terminals + and F is always regulated to 12 V, a 12 V fan must be used for both 12 V and 24 V power supply systems. The fan output can supply a continuous current of 0.5 Aavg. A higher current draw is allowed for 2 seconds during start.

Lamp (optional, fig. 5.5.1)
A 12 V DC 5 Watt lamp (10) can be connected between the terminals A and C. The output voltage between the terminals A and C is always regulated to 12 V DC. A 12 V DC lamp can be used with both the 12 V and 24 V power supply. The lamp output is a continuous output current of 0.5 A on average.
LED (optional, fig. 5.5.1)
A 10mA light emitting diode (LED) (6) can be connected between the terminals + and D. If the electronic unit records an operational error, the diode will flash a number of times. The number of flashes depends on what kind of operational error was recorded. Each flash will last ¼ second. After the actual number of flashes there will be a delay with no flashes, so that the sequence for each error recording is repeated every 4 seconds.

No. FLASHES	ERROR TYPE
5	**Electronic unit thermal stop.** If the cooling system has been overloaded or the ambient temperature is too high, the control unit will overheat.
4	**Insufficient motor speed.** If the cooling system is overloaded, the motor is no longer able to maintain a minimum speed of 1,850 rpm
3	**Motor start error.** The motor is blocked or the differential pressure of the cooling system is too high (> 5bar).
2	**Fan stop due to overcurrent.** The fan has a power input from the electronic control unit of more than 1App
1	**Battery protection stop.** The power voltage is outside the set disconnect value.

fig. 5.5.1



Optional battery protection setting
Impostazioni opzionali protezione batteria

Resistor (9) kΩ	12V cut-out V	12V cut-in V	12V max. Voltage	24V cut-out V	24Vcut-in V	24V max Voltage
Resistore (9) kΩ	12V stacco V	12V attacco V	Max tensione a 12V	24V stacco V	24V attacco V	Max tensione A 24V
0	9.6	10.9	17.0	21.3	22.7	31.5
1.6	9.7	11.0	17.0	21.5	22.7	31.5
2.4	9.9	11.1	17.0	21.8	22.9	31.5
3.6	10.0	11.3	17.0	22.0	23.2	31.5
4.7	10.1	11.4	17.0	22.3	23.4	31.5
6.2	10.2	11.5	17.0	22.5	23.7	31.5
8.2	10.4	11.7	17.0	22.8	23.9	31.5
11	10.5	11.8	17.0	23.0	24.2	31.5
14	10.6	11.9	17.0	23.3	24.5	31.5
18	10.8	12.0	17.0	23.6	24.7	31.5
24	10.9	12.2	17.0	23.8	25.0	31.5
33	11.0	12.3	17.0	241	25.2	31.5
47	11.1	12.4	17.0	24.3	25.5	31.5
82	11.3	12.5	17.0	24.6	25.7	31.5
220	9.6	10.9			26.0	31.5

fig. 5.5.4

Wire dimensions
Dimensioni cavi fig. 5.5.2

Cross section mm²	Max length* m 12V operation	Max length* m 24V operation
Sezione mm²	Max. lunghezza* m funzionamento a 12V	Max. lunghezza* m funzionamento a 12V
2.5	2.5	5
4	4	8
6	6	12
10	10	20

Lenght between battery and electronic unit
Lunghezza tra la batteria e l'unità elettronica
Wire dimension AC/Dimensioni cavi AC
Cross section / Sezione : min. 0.75 mm²

Standard battery protection setting
Impostazioni standard protezione batteria fig. 5.5.3

12V cut-out V	12V cut-in V	24V cut-out V	24V cut-in V
12V stacco V	12V attacco V	24V stacco V	24V attacco V
10.4	11.7	22.8	24.2

Compressor speed
Velocità compressore fig. 5.5.5

Resistor (8) Ω	Motor speed rpm	Contr.Circ. Current mA
Resistore (8) Ω	Velocità motore giri/min	Corrente circuito controllo mA
Does not apply Non applicare	2000	5
RED/ROSSO	2500	4
BLACK/NERO	3000	3
YELLOW/GIALLO	3500	2

5.6 - WATER SUPPLY CONNECTION (DW-IM version only)

Connect the water mains to the threaded filler on the solenoid valve (A) using the special hose (11) supplied (Fig. 5.6.1).

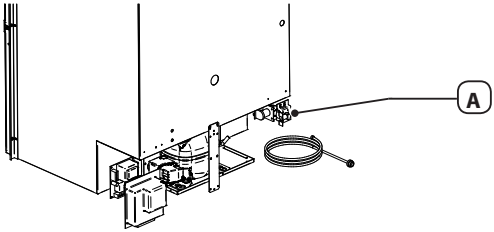


Fig. 5.6.1

PLEASE NOTE:
This appliance is suitable to work with a water pressure between 1 - 3 bar (0.1 - 0.3 MPa).

WARNING
Make sure that the water mains is providing drinking water.

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Make sure that the water mains has the necessary pressure for ice-making cycles of between 120/135 g: optimum pressure 2 bar (0.2 MPa).
We recommend fitting a shut-off valve on the water line.

6 – FIRST-TIME USE

WARNING
Read through the whole safety section before using the appliance.

6.1 - SETTINGS:

6.1.1 -TEMPERATURE CONTROL

The electronic "LED" thermostat has two button controls:
- An "ON/OFF" control " ⏻ " (Fig. 6.1.1.1)
- A temperature adjustment control " ❄ " (Fig 6.1.1.1)

Pressing the control marked " ⏻ " (Fig. 6.1.1.1) will switch the refrigerator on or off**,** alternatively. To set the required temperature, press the control marked " ❄ " (Fig. 6.1.1.1). Each time this control is pressed, the LED indicator (Fig. 6.1.1.1) will light up from left to right; for intermediate settings, two adjacent LEDs will light up.
When the LED lights up on the left, the appliance is at minimum (warmer temperature).

To select a cooler temperature, press the control repeatedly until the LED furthest on the right (maximum cold) lights up; pressing it again will cause the LED furthest on the left to light up. When the LED is in the middle, the appliance is at a medium temperature setting.

Fig. 6.1.1.1

MODEL	CARACTERISTIC	THERMOSTAT SETTING	FRIDGE DRAWER	FREEZER DRAWER	FRIDGE
DW RF	1 DRAWER	MIN	+8	-	-
		MID	+3	-	-
		MAX	-4	-	-
	2 DRAWERS	MIN	+12	-	-
		MID	+6	-	-
		MAX	+2	-	-
DW BT	1 DRAWERS	MIN	-	-6	-
		MID	-	-13	-
		MAX	-	-16	-
	2 DRAWERS	MIN	-	-6	-
		MID	-	-13	-
		MAX	-	-16	-
DW DT	2 DRAWERS	MIN	+10	-5	-
		MID	+7	-11	-
		MAX	+2	-17	-
VENTILATED	-	MIN	-	-	+9
		MID	-	-	+7
		MAX	-	-	+2

On the model DW-IM, the thermostat must be set to maximum to make ice. The ice maker with fridge dispenses twice an hour when the system is at full speed (6 kg per day).

6.1.2 - "FINE" ADJUSTMENT FOR WATER SUPPLY (version with ice maker)

To access the screw to adjust the incoming water level, remove the plastic casing from the ice maker (Fig. 13, A).
Use a screwdriver on the water level adjustment screw (Fig. 13, b) to move the contact directly on the grid assembly.

- Turn the screw clockwise: to reduce the amount of water
- Turn the screw anticlockwise: to increase the amount of water

A full turn (360°) will increase/reduce water by 40 cm^3 (~2.4 sec.)
A half turn (180°) will increase/reduce water by 20 cm^3 (~1.2 sec.)

PLEASE NOTE:
After it has been installed, the Ice Maker will run an empty cycle and then produce ice during all subsequent cycles.

The first cubes will be dispensed after approximately 1 hour.

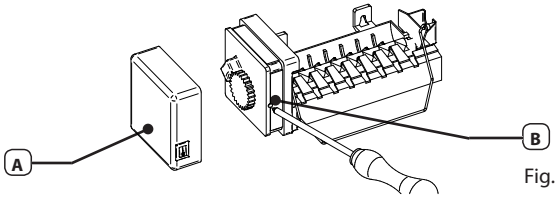

Fig. 6.1.2.1

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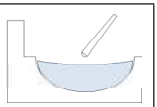
6.2 - ICE MAKING MODE (version with ice maker)

- Production

The base of the grid assembly is filled with water and the thermostat remains in the open position. Once the set temperature has been reached, the cycle for ice ejection from the grid assembly (J) (~ 40 min.) will begin.	

- Ejection

1	Once at the correct temperature, the thermostat will close, starting the heating element and the motor.	
2	Extractor blades will press down on the ice to remove it; the heating element remains on	
3	The blades extract the ice cubes from their seating, pouring them into the rack. The ice-making cycle will continue until the ice hopper is full	

6.3 – MAINTENANCE MODE

During maintenance operations, the ice-making operations are interrupted. The machine enters maintenance mode when:

- The ice maker on switch (Fig. 6.3.1) is off.
- Hopper (Fig. 6.3.1) full of ice. To restart the ice maker simply empty the hopper, even partially).

PLEASE NOTE:
The ice cube rack in the top drawer (Fig. 14, c) has an ON/OFF switch to start the ice-making process. When the Ice Maker drawer is open, the ice maker will stop automatically. (See attached wiring diagram).

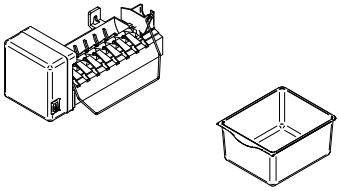


Fig. 6.3.1

7 – ROUTINE MAINTENANCE

WARNING
Before carrying out any maintenance on the equipment, make sure that:
- the fridge is off: see the on-off control "⏻".
- The equipment is disconnected from power sources.
- The temperature of the different parts is as close as possible to the ambient temperature.

- Wear personal protective equipment (PPE), in line with regulations.

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7.1 – CLEANING THE REFRIGERATOR

Exterior
Clean the outside of the appliance with a soft cloth or sponge, without using solvents or abrasive products.
Interior
Remove one sliding drawer at a time and proceed to clean using warm water mixed with a little bicarbonate of soda or vinegar.
Rinse carefully and dry thoroughly using a soft cloth. Never use abrasive products, detergents or soap.
In the case of prolonged disuse, to avoid the formation of mould or unpleasant odours, disconnect the appliance from the mains power, removing the plug from the socket; empty the unit completely; clean the interior, and leave the door ajar.
Condenser
The condenser should be cleaned at least once a year using a vacuum cleaner or a dry brush.

7.2 – DEFROSTING THE APPLIANCE

PLEASE NOTE:
Defrosting should be carried out whenever the frost layer exceeds a thickness of three millimetres. This is necessary to guarantee efficient refrigeration and to avoid excessive power consumption.

For total appliance defrosting:

- Press the on-off button " ⏻ " to switch off the appliance.
- Leave the drawers open to speed up the defrosting time.
- Do not attempt to remove the frost layer using sharp metal instruments. This could pierce the refrigerator plate and cause irreparable damage to the appliance.

WARNING
Failure to comply with the above could cause damage to the refrigerating circuit.

- At the end of the defrosting process, switch on the machine " ⏻ "

7.3 – DRAWER REMOVAL

To remove the drawers, it is necessary to press down on the levers (Fig. 7.3.1) that you will find on the right or left-hand guide (Fig. 7.3.1), releasing the lock of the drawer.

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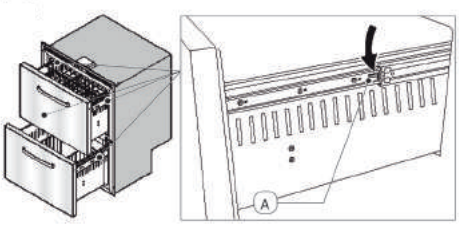
PLEASE NOTE: The guide on the left is unlocked by pressing the lever in the opposite direction to that of the one on the right (Fig. 7.3.1).

Fig. 7.3.1



7.4 - LIGHT LED BOARD REPLACEMENT

The refrigerators in the DW series have LED lights, magnetically controlled by the drawers opening or closing. Modules with two drawers have two LED bars: one under the top of the unit for the top drawer and one under the central crosspiece for the bottom one. Modules with just one drawer and the ventilate fridge have a LED light bar over the top of the unit. When the door is opened on the ventilated fridge, this causes the light to switch on and the evaporator fan to stop, restarting once the door is closed. To replace the lighting board, proceed as follows:

- remove the protective cover perpendicularly from the base. Take care not to damage the fastening pins.
- disconnect the light power supply cord
- replace the LED light board

- connect the power cord
- refit the cover.

WARNING
When replacing the board, take great care not to damage the magnetic control reed.

7.5 - STAINLESS STEEL FRONT PANEL REMOVAL

Before removing the panel, we recommend that you take the drawer out of the fridge, as described in the previous section.
To remove the drawer fronts, it is necessary to remove the screws from the perimeter area of the drawer front itself (Fig. 7.5.1).

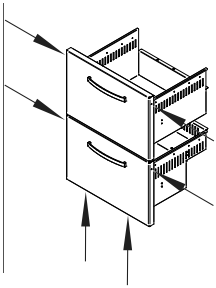


Fig. 7.5.1

7.6 - DRIP TRAY REMOVAL ("DT" versions only)

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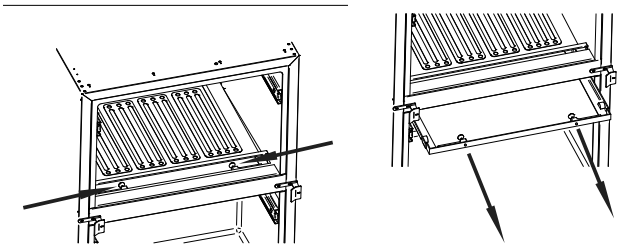
To take out the drip tray, proceed as follows:

- Disconnect the water waste pipe
- Release the fastening pins inside the appliance.
- Take out the drip tray using a downwards movement to release the fastening on the bottom of the tray.



8 - TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The appliance is not working	Thermostat set to off.	make sure it is set to on.
	The automatic breaker of the electric system is off.	make sure the electrical system automatic circuit breaker is engaged.
	No mains voltage.	the power supply cable is not faulty
		any junction points in the power line are efficient and terminals are properly tightened.
		make sure that the battery is in good working order (for battery-powered versions).
		make sure that the poles on the battery have not oxidised and that the same is true for the contact points (for battery-powered versions).
		check the standard battery protection settings
		make sure that the voltage on the electronic control unit terminal board corresponds to that of the battery.
		check to ensure that the size of the cable connecting the battery to the electronic control unit corresponds to specifications
The appliance is not working	Insufficient power	make sure that the drawers are airtight when closed.
		Check to make sure the appliance is well away from heat sources
		make sure the refrigerator and remote refrigerating unit are sufficiently ventilated
		check whether frost has accumulated on the evaporator
		the condenser is not blocked by dust
		the fan can rotate freely
		the refrigerator is not over-full
Noisy fridge	The appliance or refrigerating unit is not properly level.	Call the assistance service.
	The refrigerator is touching other objects that may cause vibrations	Call the assistance service.
	The refrigerating circuit tubes at the back of the unit are touching or vibrating against the appliance	Call the assistance service.

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PROBLEM	CAUSE	SOLUTION
The ice maker is not making any ice.	The appliance is not working	The appliance is not working. Make sure there is electrical power.
		Make sure that the electrical system circuit breaker on the appliance has not tripped.
		Make sure that the plug is in perfect working order and is correctly inserted into the socket
		Ensure the socket is in perfect working order. To check this, plug in an appliance that you know to work
		Make sure the power supply cable is not faulty
		Make sure the refrigerating system is operating correctly
		Make sure the ice-maker rack switch is set to on.
		Check to ensure there is water in the ice cube rack.
	The ice maker is not working	Check the water mains for any problems.
		Make sure the internal temperature of the ICE MAKER is ≤ -15°C.
		Make sure the ice level sensor is set downwards.
		if water is present in the grid assembly, make sure that the cooling system is operating correctly.
	The ice maker is not dispensing ice.	Check the ice cube rack for ice: If this is the case, reset the appliance by switching it off for 4-5 hours. If, at the end of this check, the ice maker is still not working, contact the assistance service

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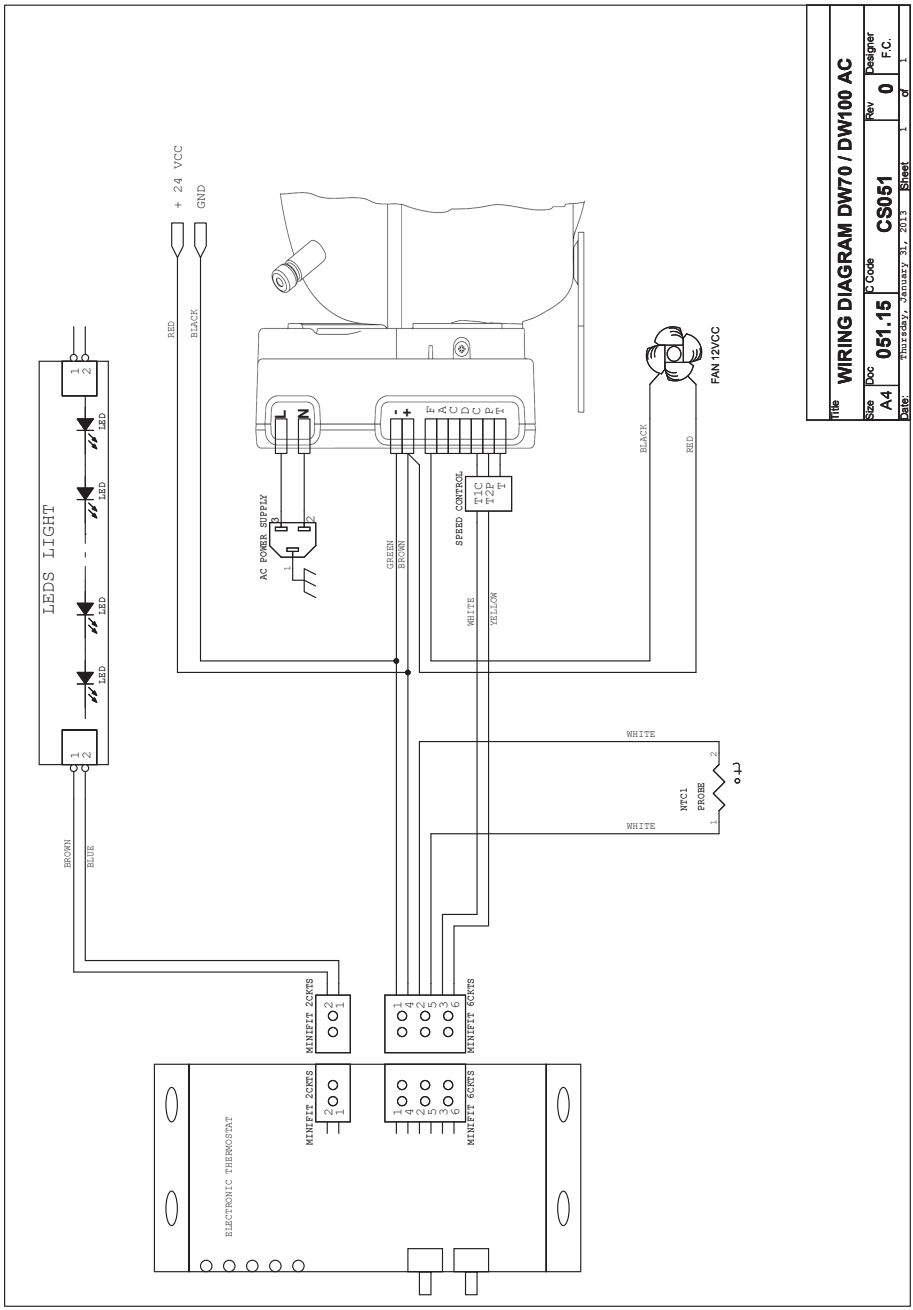
9 - DISPOSAL

This appliance cannot be disposed of as urban waste; it must be recycled. Contact your local Waste Electronic and Electrical Equipment (WEEE) treatment centre or return it to the seller when purchasing new equivalent equipment.
If not disposed of correctly, the appliance can be harmful to the environment and to human health, on account of certain substances it contains.

10 - WIRING DIAGRAMS



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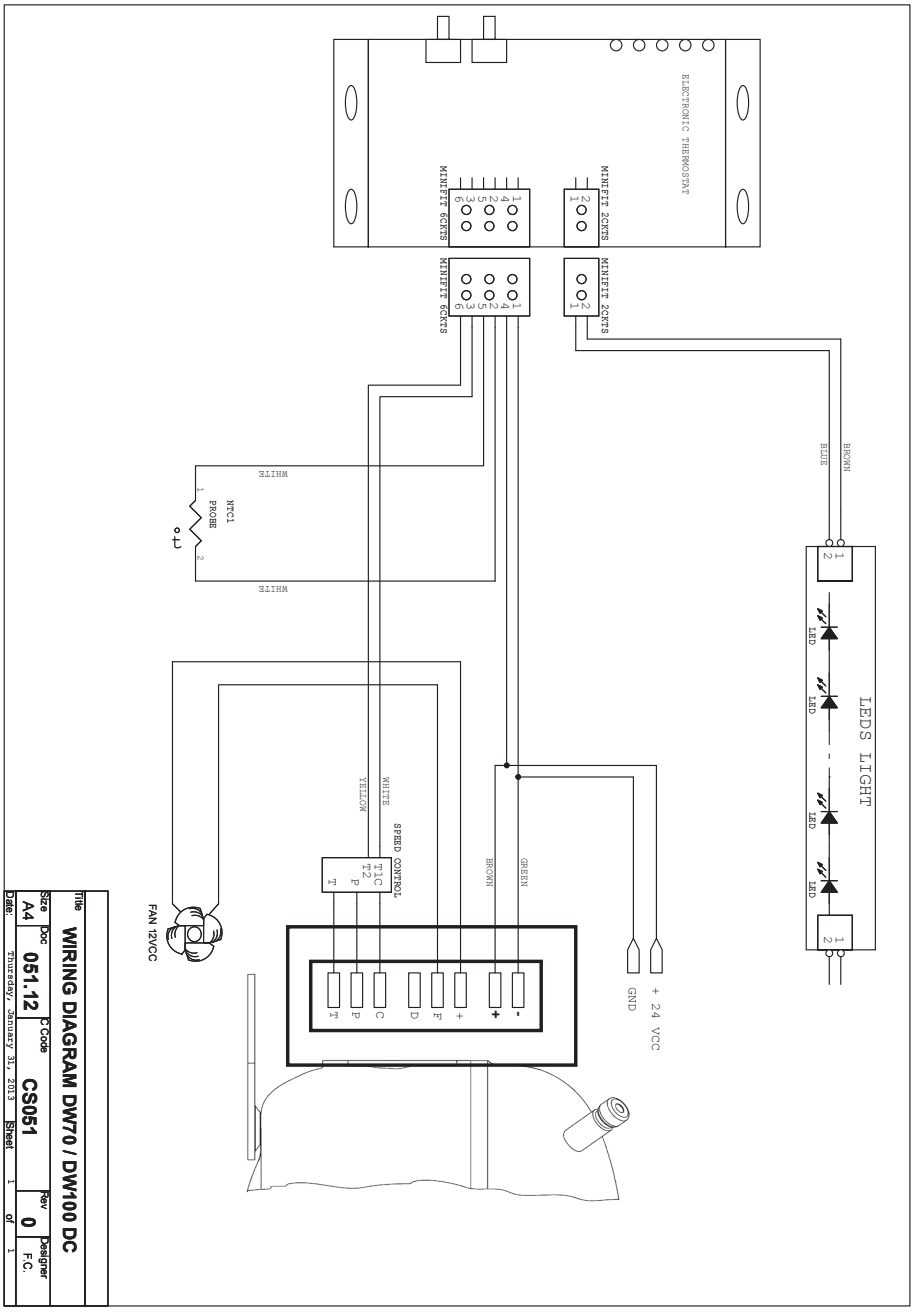
ELECTRONIC THERMOSTAT
MINIFIT 6CKTS
MINIFIT 2CKTS
MINIFIT 6CKTS
MINIFIT 2CKTS
BROWN
BLUE
LEDS LIGHT
LED
LED
LED
LED
WHITE
NTC1
PROBE
WHITE
WHITE
YELLOW
SPEED CONTROL
T1C
T2
P
T
GREEN
BROWN
FAN 12VCC
GND
+ 24 VCC
T
P
C
D
F
+
-
Title
WIRING DIAGRAM DW70 / DW100 DC
Size
A4
Doc
051.12
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Rev
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Thursday, January 31, 2013
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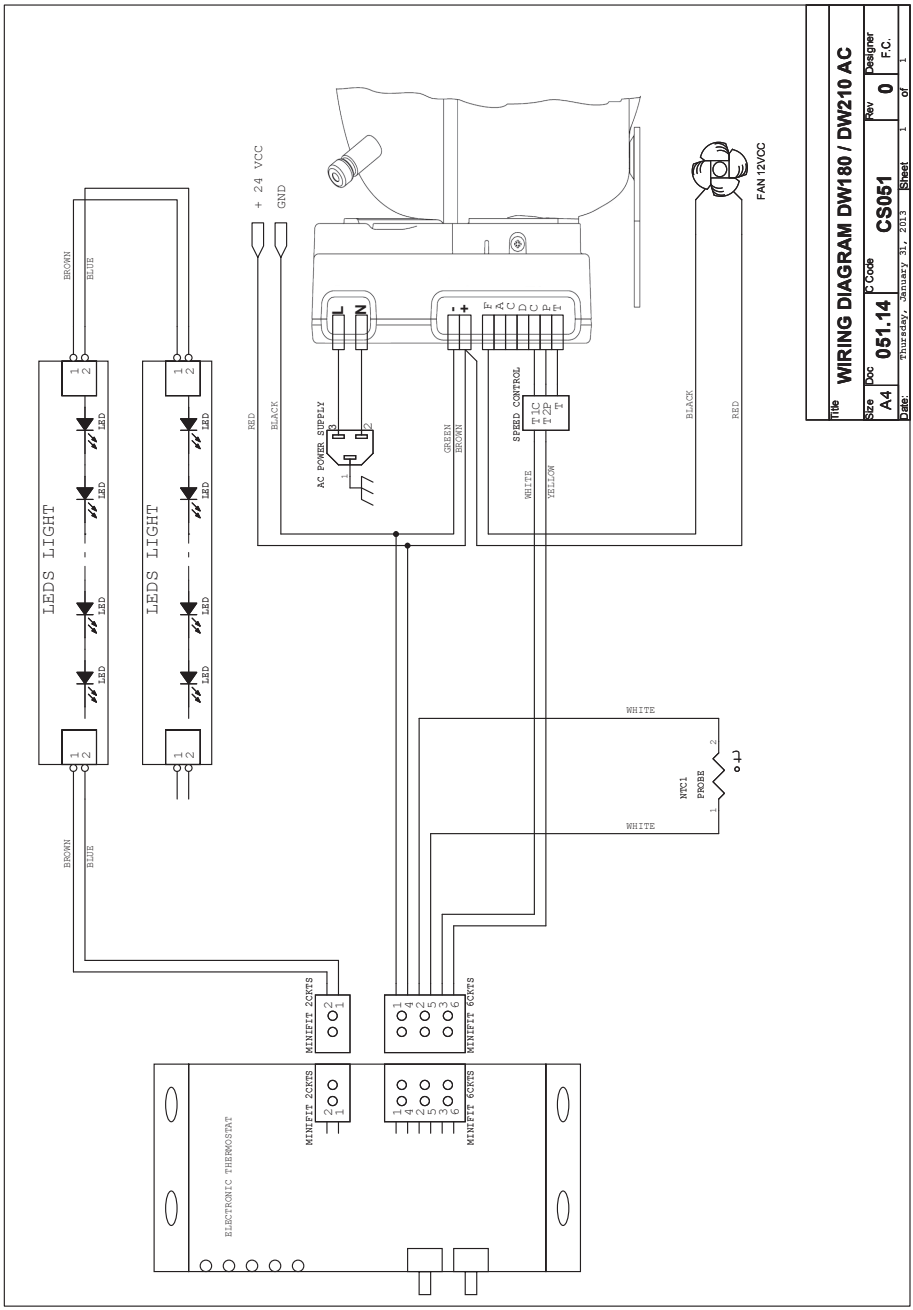
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Doc 051.14
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Rev 0
Designer F.C.
Date: Thursday, January 31, 2013
Sheet 1 of 1
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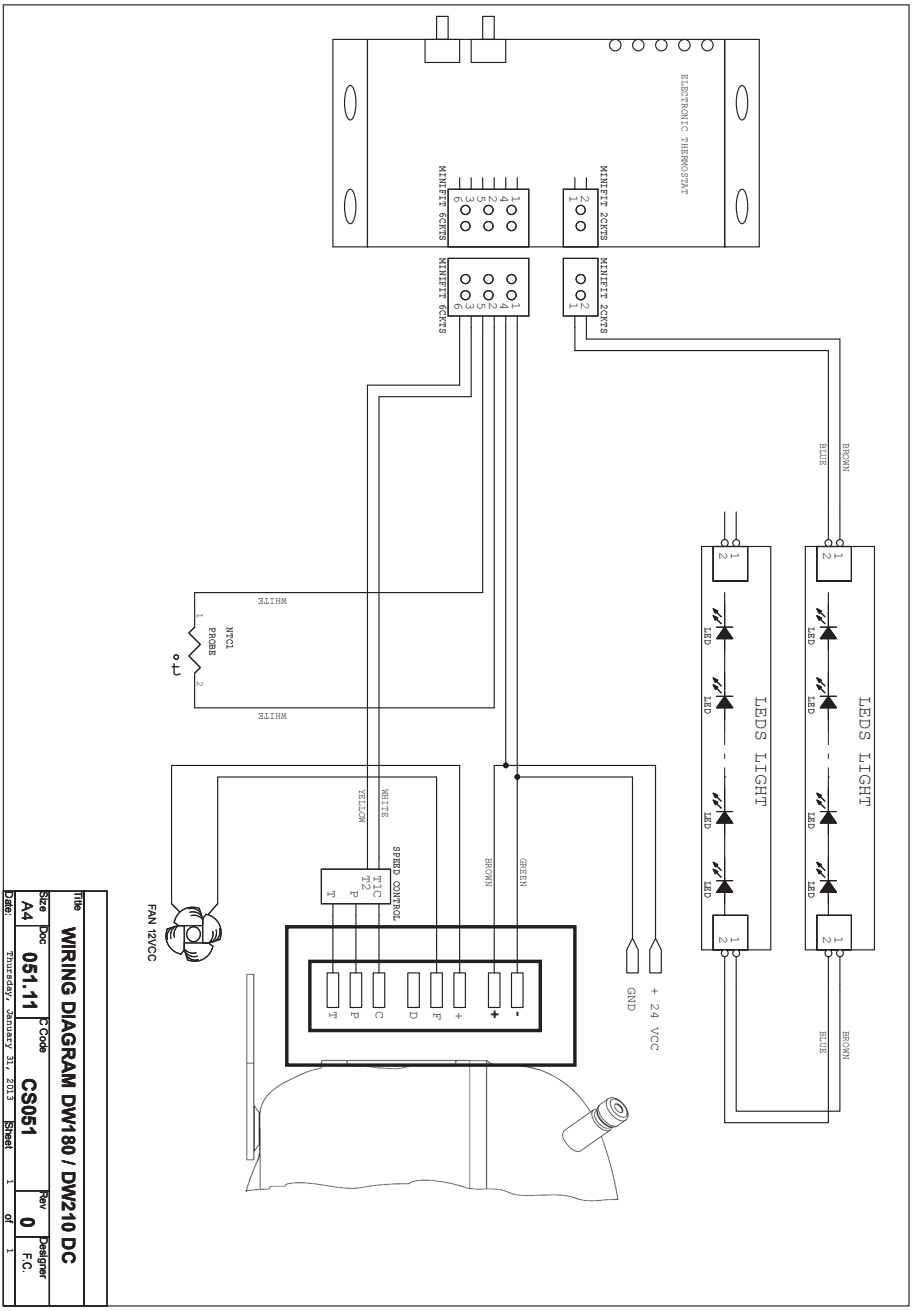
RED
BLACK
AC POWER SUPPLY
L
N
GREEN
BROWN
SPEED CONTROL
F A C D C B E
1C 2C T
WHITE
YELLOW
BLACK
RED
FAN 12VCC
BROWN
BLUE
LEDS LIGHT
LED
WHITE
NTC1
PROBE
MINIFIT 2CKTS
MINIFIT 6CKTS
ELECTRONIC THERMOSTAT

EN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MINIFIT 2CNTS
MINIFIT 6CNTS
MINIFIT 2CNTS
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BLUE
LEDS LIGHT
LED
LEDS LIGHT
BROWN
BLUE
WHITE
NTC1
PROBE
WHITE
WHITE
YELLOW
SPEED CONTROL
FAN
T1
T2
P
T
BROWN
GREEN
+
-
T
P
C
D
F
+
-
+ 24 VCC
GND
FAN 12VCC
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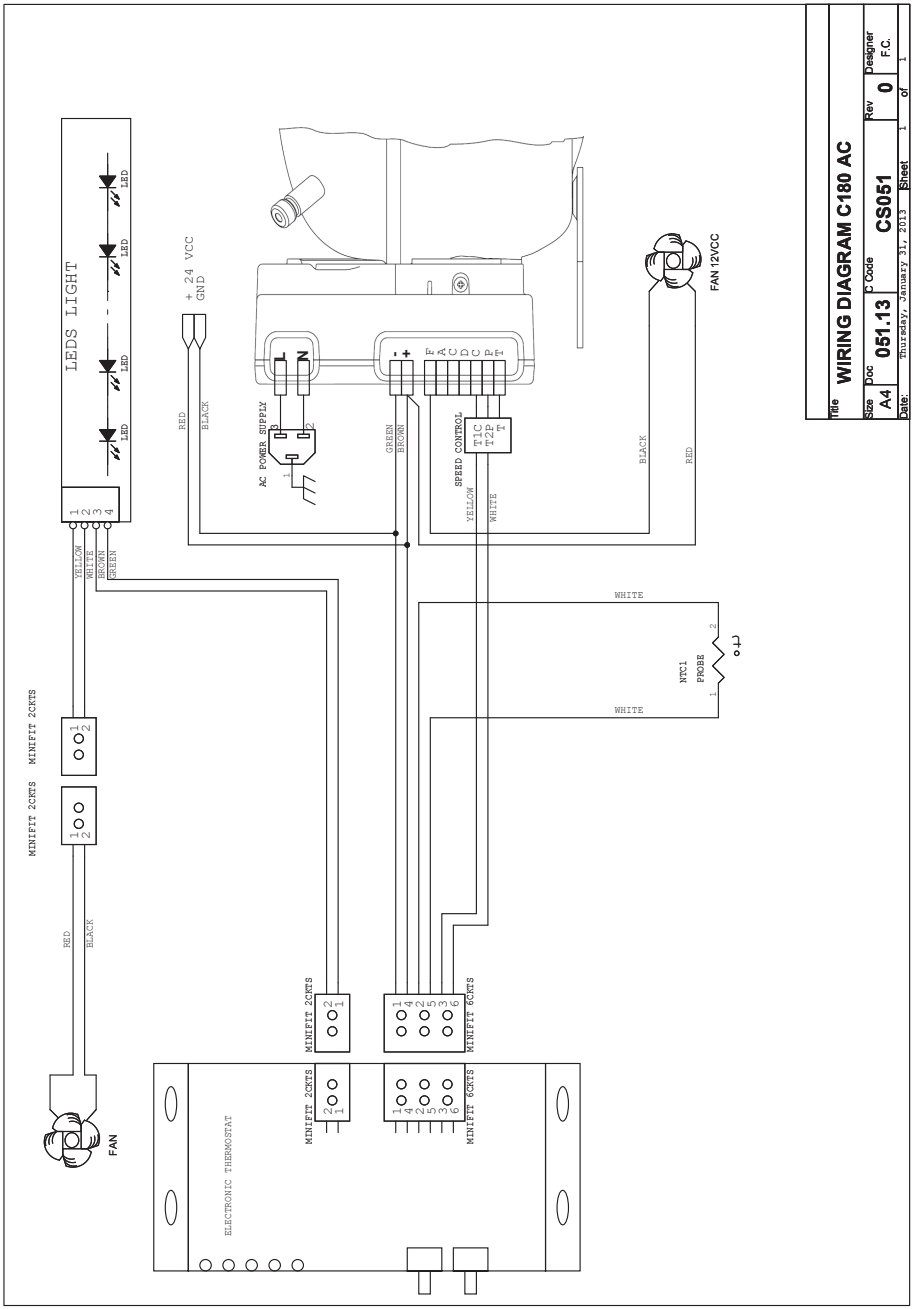
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Rev 0
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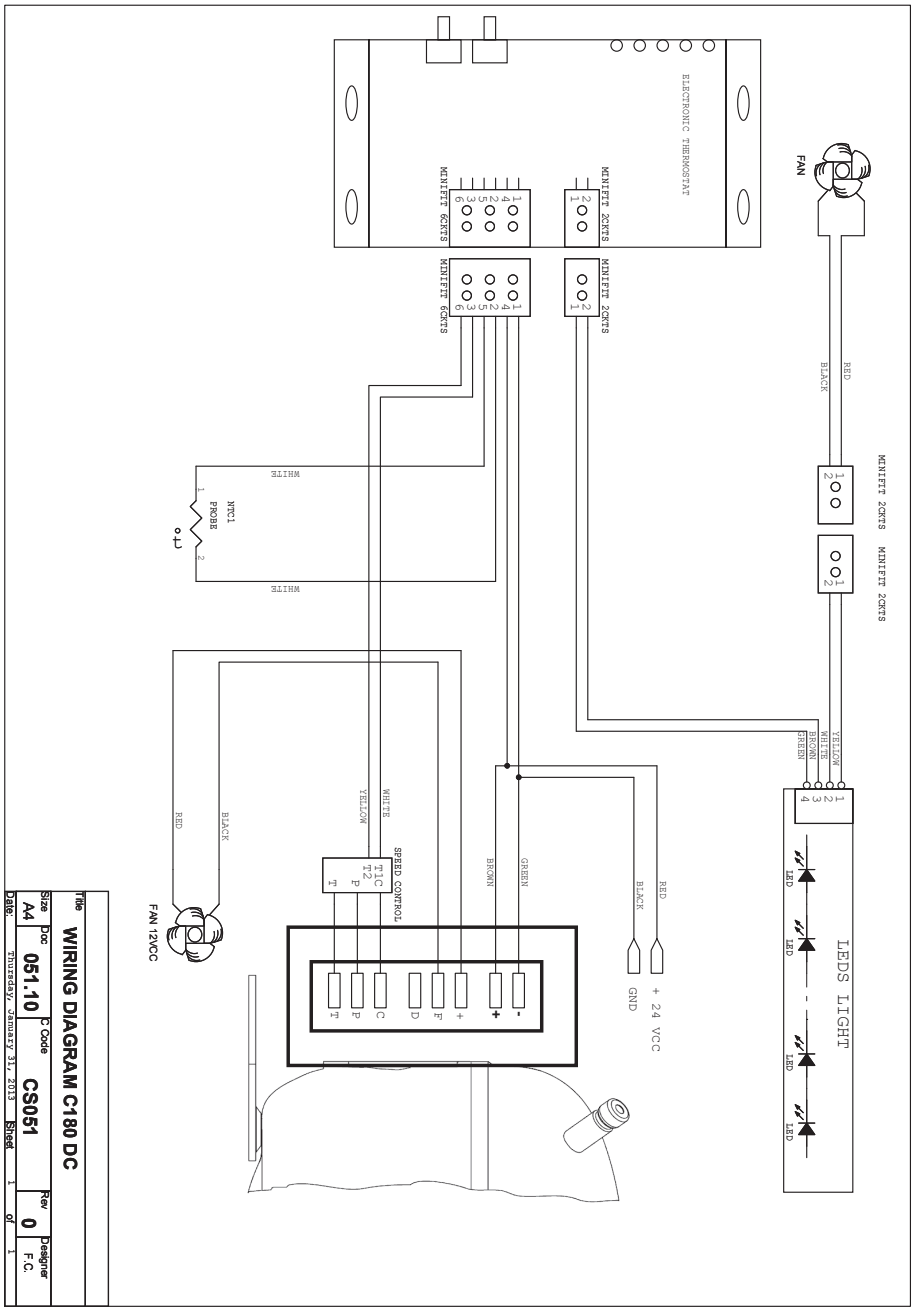
LED
+ 24 VCC
GND
RED
BLACK
AC POWER SUPPLY
L
N
GREEN
BROWN
SPEED CONTROL
T1C
T2P
T
FACTORY SET
YELLOW
WHITE
BLACK
RED
FAN 12VCC
NTC1
PROBE
MINIFIT 2CKTS
MINIFIT 6CKTS
ELECTRONIC THERMOSTAT
FAN

EN



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Date:	Thursday, January 31, 2013	Sheet	1	of 1

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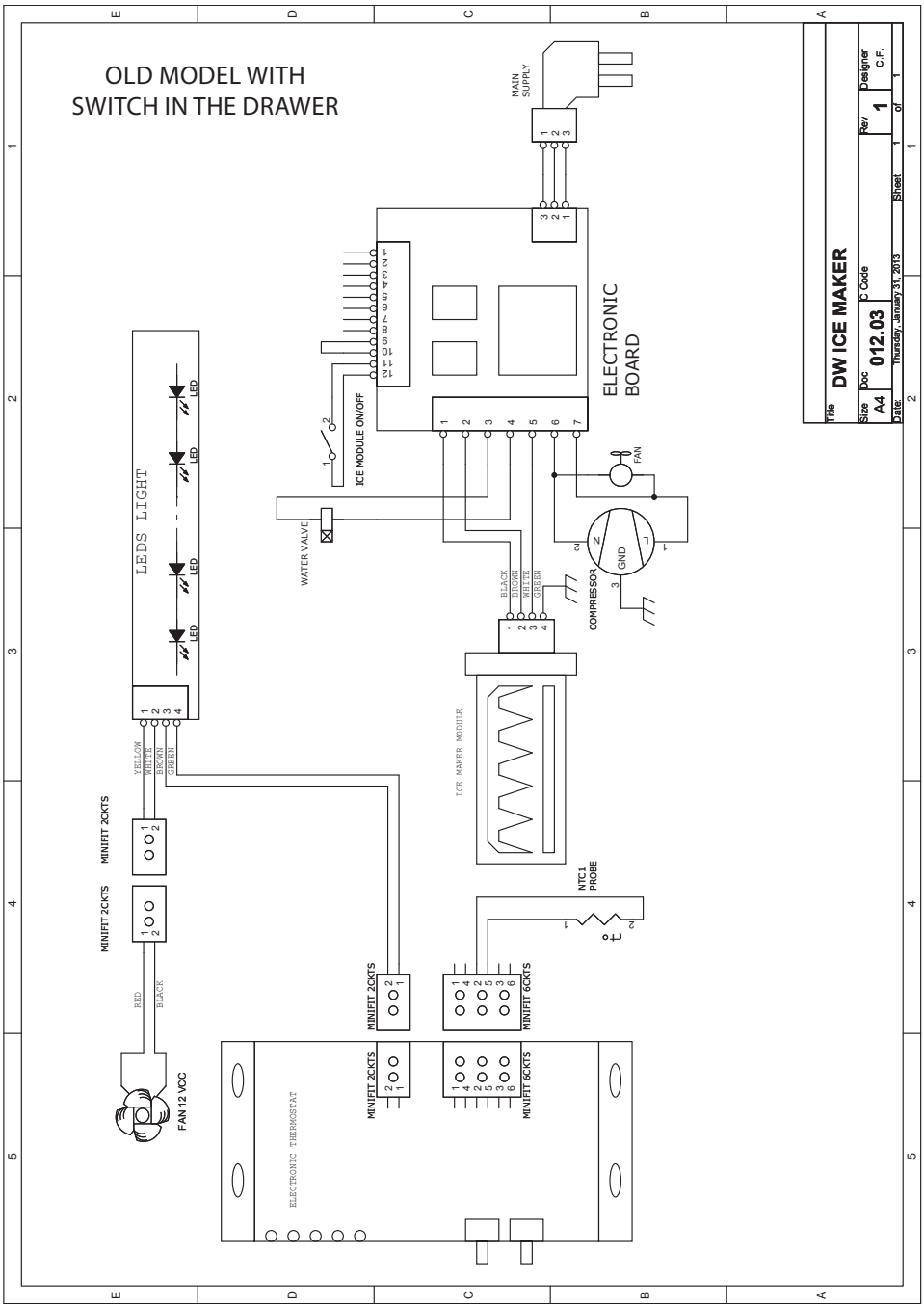
OLD MODEL WITH
SWITCH IN THE DRAWER
MAIN SUPPLY
ELECTRONIC BOARD
ICE MODULE ON/OFF
WATER VALVE
FAN
COMPRESSOR
GND
BLACK
BROWN
WHITE
GREEN
LEDS LIGHT
LED
YELLOW
WHITE
BROWN
GREEN
MINIFIT 2CKTS
MINIFIT 6CKTS
ICE MAKER MODULE
NTC1 PROBE
RED
BLACK
FAN 12 VDC
ELECTRONIC THERMOSTAT
Title
DW ICE MAKER
Size
A4
Doc
012.03
C Code
Rev
1
Designer
C.F.
Date
Thursday, January 31, 2013
Sheet
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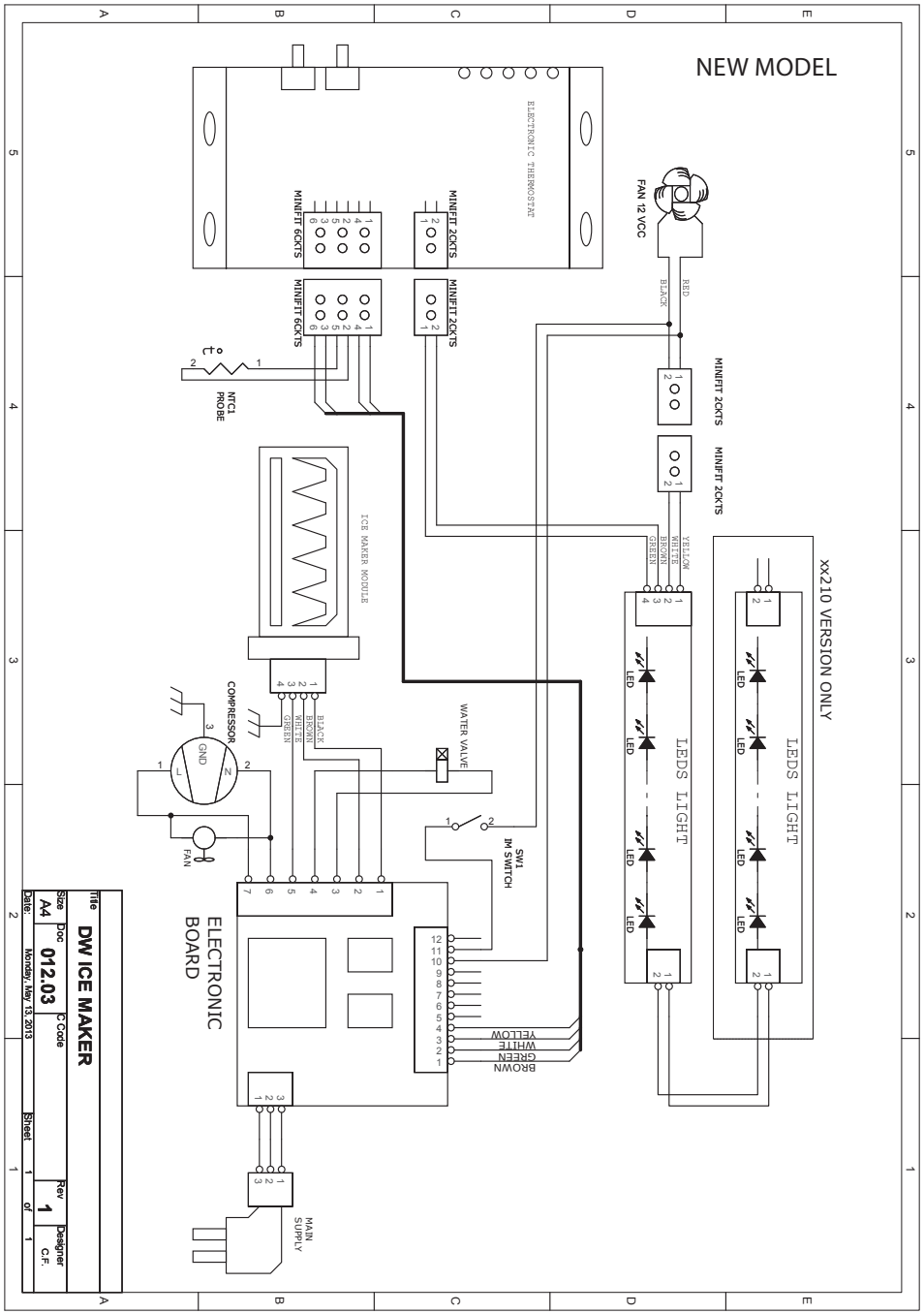
NEW MODEL
ELECTRONIC THERMOSTAT
MINIFIT 6CKTS
MINIFIT 2CKTS
FAN 12 VCC
RED
BLACK
NTC1 PROBE
ICE MAKER MODULE
COMPRESSOR
GND
L
N
FAN
WATER VALVE
SW1 IM SWITCH
ELECTRONIC BOARD
BROWN
GREEN
WHITE
YELLOW
MAIN SUPPLY
xx210 VERSION ONLY
LEDS LIGHT
LED
Title
DW ICE MAKER
Size
A4
Doc
012.03
C Code
Rev
1
Designer
C.F.
Date
Monday, May 13, 2013
Sheet
1
of
1

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DICHIARAZIONE DI CONFORMITA'

La VITRIFRIGOsrl con sede in via della Produzione 9, 61022 fraz. Montecchio VALLEFOGLIA(PU), Italia,

DICHIARA

sotto la propria responsabilità che il frigorifero o unità refrigerante per la refrigerazione ed il mantenimento di cibi e bevande i cui dati sono riportati nell'etichetta sottostante ed alla quale questa dichiarazione si riferisce

E' CONFORME

ai requisiti essenziali di sicurezza previsti dalle direttive:
2006/95/EEC 2004/108/EEC

DECLARATION OF CONFORMITY

VITRIFRIGOsrl, with it mainoffice in via della Produzione 9, 61022 fraz. Montecchio VALLEFOGLIA(PU), Italy,

Here by DECLARES,

under its sole responsibility, that the refrigerator or refrigerating unit designed for the refrigeration and preservation of food and beverages, as per the dataplate indicated below and to which this declaration refers,

COMPLIES WITH THE

basic safety requirements specified in EC directives:
2006/95/EEC 2004/108/EEC

Vitri Alceste