WESTERN™
AIRCONDITIONING

USER'S – INSTALLER'S MANUAL
FOR OUTDOOR UNITS

MONO DC AND SUPER DC INVERTER

3500 W

5300 W

7100 W

10500 W

14000 W

17600 W

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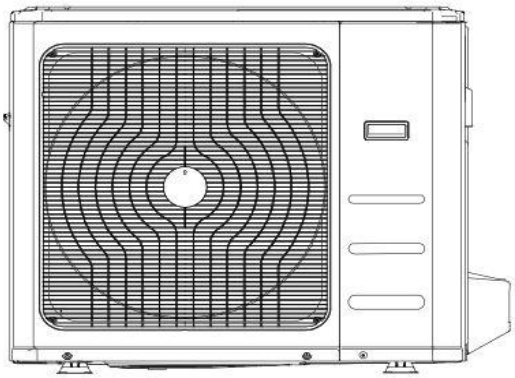

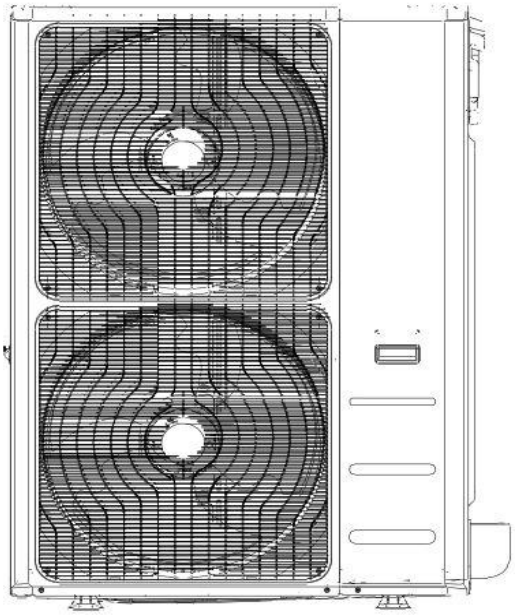

Serie / Series / Serie / Serie / Série

USER'S-INSTALLER'S MANUAL
MONO DC INVERTER OUTDOOR UNITS

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Possible electrical or electronic rejected devices/products should not be located together with normal domestic waste, but disposed according to the current WEEE law in compliance with the 2002/96/EC European Directive and with the 2003/108/EC following amendments. Should you decide to replace this product with a new one, please, address your local Administration or your reseller.

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1. GENERAL INFORMATION

The company is exempt from any contractual and non-contractual liability for any damage caused to persons, animals or property resulting from errors in installation, adjustment and maintenance or from improper use. All uses not expressly indicated in this manual are not permitted.

2. CONSERVATION OF THE MANUAL

The manual and all related documentation must be given to the user of the system, who is responsible for preserving the same so that they are always on hand when required. ***Read this manual carefully; the execution of all tasks must be performed by qualified staff, according to the standards in force on this subject in the different countries.*** *The unit must be installed in a way that enables maintenance operations and/or repairs.*

Do not modify or tamper with the units as doing so could create hazardous situations and in such case, the manufacturer will not be liable for any damage caused. The validity of the warranty shall be null and void where the above mentioned instructions are not complied with.

3. SAFETY PRECAUTIONS

	*Appliance filled with flammable gas R32*
	*Before use the appliance, read this manual first.*
	*Befor install the appliance, read this manual*
	*Befor repair the appliance read the technical manual first.*

The safty precautions listed here are divided into two categories. In either case, important safty information is listed which must be read carefully.

⚠ ***WARNING***	*Failure to observe a warning may result in death.*
⚠ ***CAUTION***	*Failure to observe a caution may result in injury or damage to the equipment.*

4. R32 REFRIGERANT

⚠ **WARNING**

- Read carefully the instructions.

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).

- Do not pierce or burn.

- Be aware that the refrigerants may not contain an odour.

- Appliance should be installed, operated and stored in a room with a floor area larger than xm^2. (see paragraph 14.1 for the space x)

- Compliance with national gas regulations shall be observed.

- Keep ventilation openings clear of obstruction.

- The appliance shall be stored so as to prevent mechanical damage from occurring.

- A warning that the appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.

- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.

- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.

5. INSTALLATION REGULATIONS

- The unit must be installed by qualified personal and in compliance with the national legislation in force in the country of destination. The company will not assume any liability for damage if these instructions are not respected.
- Before begining any work read the manual carefully and perform the related safety checks to avoid any possibility of danger. All the staff involved must have thorough knowledge of the operations and any dangers that may arise at the moment in which the installation operations are carried out.

6. INSTALLATION WARNINGS

• The employed refrigerant gas is R32.

• Be sure only trained and qualified service personnel to install, repair or service the equipment. Improper installation, repair, and maintenance may result in electric shocks, short-circuit, leaks, fire or other damage to the equipment.To guarantee the unit operates correctly, and the choice of location for the installation must meet the following criteria:

• The outdoor unit must be installed so as to ensure that air discharged from the unit itself is not recirculated and there is sufficient space around the machine for operations and maintenance.

• The installation site must be well-ventilated so that the outdoor unit can take in and discharge sufficient quantities of air. Ensure that there are no obstacles near the outdoor unit's air inlets or outlets. Remove any obstacles which may be blocking the intake or discharge of air.

• The site of the installation must be sufficiently solid to bear the weight of the outdoor unit, and it must also be able to absorb any vibrations and insulate against noise. Ensure that the air and noise coming from the unit do not disturb your neighbours.

• The site of the installation must ensure that the outdoor unit cannot become buried in snow and it is not subject to the effects of fumes from fuel and oils.

• Avoid direct exposure of the unit to solar radiation: it is recommended to install protection.

• The installation site must guarantee drainage of rainwater and water produced during the defrosting cycle.

• The site of installation must be positioned so that the discharge air outlet is not exposed to strong winds and the air discharged must be free to disperse into the atmosphere.

• To avoid disturbances, the power cables of the units should be placed at a distance of over a meter away from the electronic equipment such as televisions, radio, etc. (in the case of cables with a large load, the distance of 1 meter may not be sufficient).

• Do not install the unit in a place where flammable gas could leak or where flammable, explosive, poisonous materials and other hazardous substances are stored. Do not use naked flames near the units. Risk of fire or explosion. Install the unit in a place with minimal amounts of dust, vapour and moisture in the air.

• Do not, under any circumstance, put your finger or any objects into the unit. This may cause injuries due to the high speed of the internal fans.

• Periodically check that the installation conditions of the unit have not been altered: have the system checked by "Personnel with specific technical skills".

• Do not modify the units! Do not attempt to repair the unit alone, this is extremely dangerous! Improper interventions may cause electric shocks, water leaks, fires, etc.

Contact our After-Sales Service in your area. Interventions may only be carried out by "Personnel with specific technical skills".

• Ensure that the power supply and the installed output are adequately scaled to supply the air conditioner correctly.

• Before operating the air conditioner, ensure that the electric cables, condensate discharge pipes and refrigerant connections have been correctly installed to avoid the risk of water leaks, refrigerant gas leaks and electric shocks.

• *The air conditioner must be appropriately earthed. Do not connect the earth cable to the gas or water pipes, to the lightning conductor, or to the earth cable of the telephone. A bad earthing may result in electric shocks.*

• *Once started, the air conditioner must not be switched off for at least 5 minutes to prevent the return of oil to the compressor.*

• *The unit and the unipolar switch must be turned off before carrying out maintenance work or cleaning. The rotation of the fans inside the unit may cause injuries.*

• *Ensure that the power supply has been disconnected before carrying out any intervention.*

• *Do not install the air conditioner in places exposed to corrosiveagents.*

• *Do not place any objects onto the outdoor unit and do not climb onto it. This may cause objects or persons to fall with a risk of injury.*

• *Once the electrical connections have been made, they must be tested. This operation may only be performed by "Personnel with specific technical skills".*

• *If the supply cable is damaged, it must be replaced to avoid danger. The supply cable must only be replaced with a cable of the type stipulated in the manual. This operation can be performed only by "Qualified Personnel".*

• *To protect the unit against short circuits, mount on the supply line a unipolar magnet-circuit breaker with a minimum contact separation of at least 3mm in all poles.*

• *This air conditioner must be installed according to national plant engineering regulations Pay special attention to all the aspects pertaining to safety and make sure that the cables are connected properly. An improper connection may result in power cord, plug and socket overheating, with a serious risk of fire as a consequence.*

• *Do not leave any cable in direct contact with the refrigerant pipes and with the moving parts, such as fans, as they could reach high temperatures.*

• *Replace fuses only with identical ones to the original.*

7. IMPORTANT INFORMATION TO USERS

• *This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play the appliance. Cleaning and user maintenance shall not be made by children without supervision.*

• *Ensure that the air conditioner is connected to the power supply or to a power socket with the correct voltage and frequency. Using power supplies with the incorrect voltage and frequency could damage the unit and consequently risk starting a fire. The voltage must be stable, without major fluctuations.*

• *Do not pull or twist the power supply cable. If the cable is pulled or used inappropriately, the unit may be damaged or cause electric shocks.*

• *To avoid communication errors between the units, ensure that the communication line cables are correctly connected to their respective terminals.*

• *Adjust the temperature correctly to obtain a comfortable environment.*

• *Switch off the power supply if the air conditioner is not to be used for a long time. When the power supply switch is turned on, electricity is consumed even if the system is not operating.*

Disconnect the power supply to the air conditioner to save energy.

• *Do not leave the doors or windows open for long periods when the air conditioner is operating. The yield in heating or cooling mode is reduced if doors or windows are kept open.*

8. PRECAUTIONS AND WARNINGS FOR USE

• Do not handle the air conditioner or touch its buttons with wet hands. This may cause electric shocks.

• Do not use the master switch or the plug to turn the air conditioner on and off. To turn the air conditioner on or off use the remote control.

• Do not remove the protection grilles. Do not insert your hands, or any objects, into the sockets or air vents.

• In the event of issues with the air con ditioner (e.g. burning smell), disconnect the unit from the power supply using the isolator switch or the electric plug (if fitted). If the problem persists, the unit may be damaged and could cause electric shocks or fires. Contact our After-Sales service in your area.

• Do not use sprays or insecticides on the unit: risk of fire.

• Do not leave the windows and doors open while the unit is running. The efficiency of the air conditioner decreases and energy is wasted.

• Do not dismantle or repair the unit while it is in operation.

• Do not place near the unit hot devices, flames or other heat sources. The efficiency of the air conditioner decreases and energy is wasted.

• Avoid obstructing the air flow in and out of the indoor and outdoor units. The reduction of air flow decreases the effectiveness of the air conditioner and cause malfunctions or failures.

• Do not spray or throw water directly onto the unit. Water may cause electric shocks or damage to the unit.

• Ensure the equipment is not used by children or disabled people without suitable supervision; remember also that the equipment must not be used by children as a toy.

9. OPERATION LIMITS

	Cooling operation	Heating operation	Drying operation
Room temperature	17°C ~ 32°C	0°C ~ 30°C	17°C ~ 32°C
Outdoor temperature	0°C ~ 50°C (-15°C ~ 50°C : For the models with low temperature cooling system)	-15°C ~ 24°C	0°C ~ 50°C

1. For proper performance, operate the unit under the usable operating temperature and humidity conditions indicated in this manual. If the unit is operated beyond these conditions, it may cause malfunctions of the unit or dew dripping from the unit.

2. The phenomenon is normal that the surface of air conditioning may condense water when the relative larger humidity in room (>80%), please close the door and window.

3. Optimum performance will be achieved within the operating temperature range.

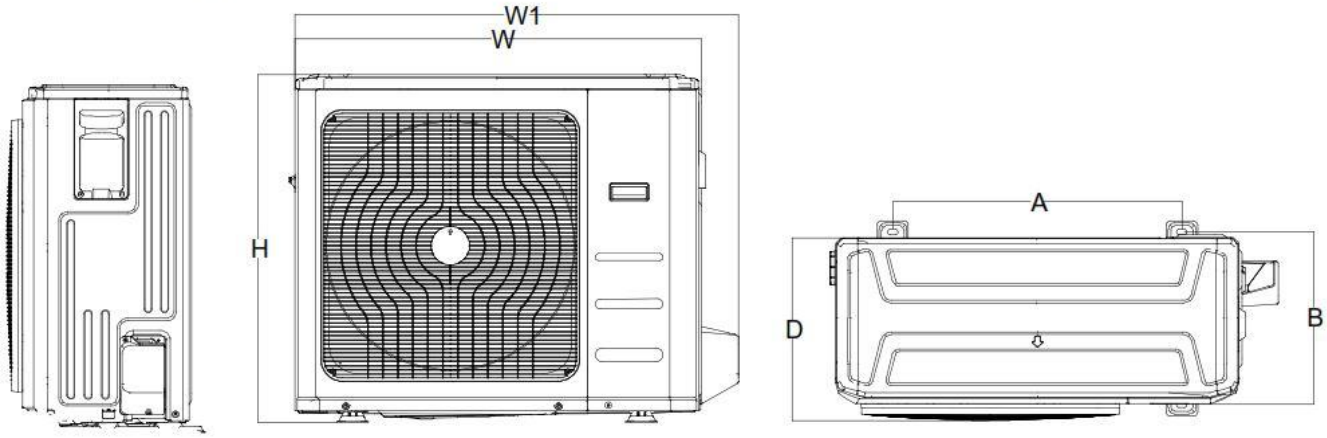
Note: It is advisable to use the units within the indicated temperature ranges in order to avoid malfunctions of the system.

10. INSTALLATION

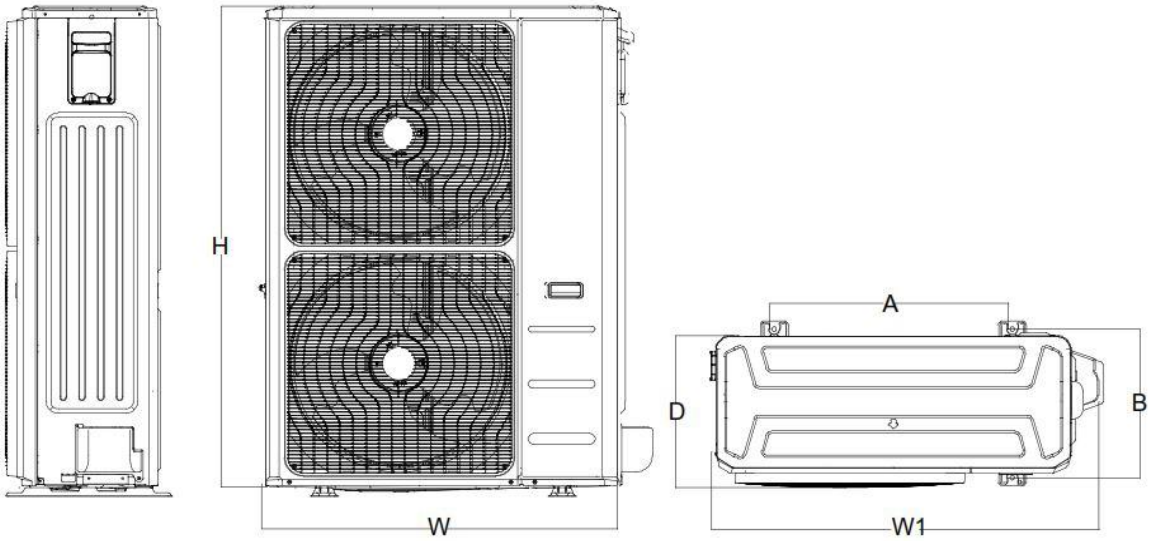
10.1 Dimentions

Before starting the installation of the system, please decide with the customer where the unit is to be installed, whilst paying attention to the following:

- The support surface must be capable of supporting the unit weight.
- The safety distances between the units and other appliances or structures must be scrupulously respected.
- The unit must be installed by a qualified technician in compliance with national laws in the country of destination.
- It is necessary to include the rewquired minimum technical spaces in order to allow routine and extraordinary maintenance interventions.
- Fix the unit checking that it is level.



Models (W)	Unit: mm					
	W	D	H	W1	A	B
5300 W	800	333	554	870	514	340
7100 W	845	363	702	914	540	350
10500 W (1-phase)	946	410	810	1030	673	403
10500 W (3-phase)	946	410	810	1030	673	403



Models (W)	Unit: mm					
	W	D	H	W1	A	B
14000 W	952	415	1333	1045	634	404
17600 W	952	415	1333	1045	634	404

⚠ Warning	*Use appropriate fixing tools to securely attach the outdoor unit to the floor. When the unit is mounted on a wall or on a roof ensure that the supports are well secured and that they can withstand shocks and strong wind. Do not install the outdoor unit in recesses or air vents. Ensure compliance with the technical spaces around the unit.*

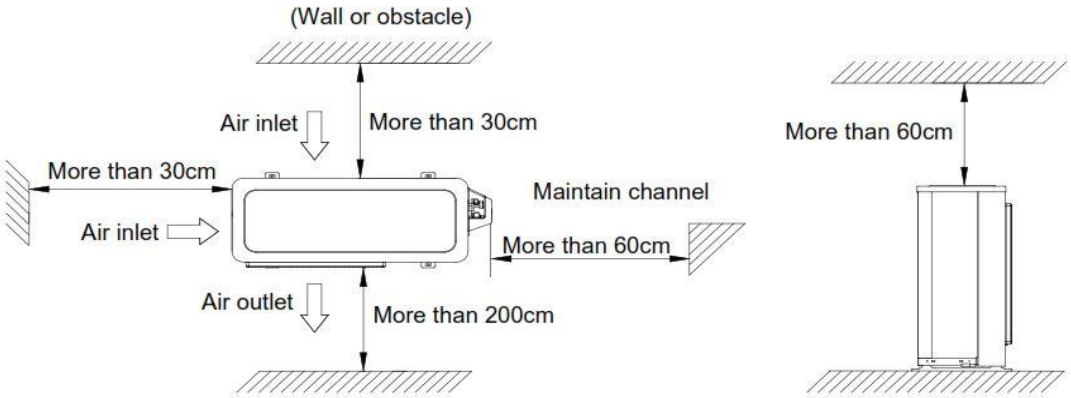
10.2 Minimum technical spaces

⚠ *The installation must be done by trained and qualified service personnel with reliability according to this manual.*

⚠ *Contact service center before installation to avoid the malfunction due to unprofessional installation.*

⚠ *When picking up and moving the units, you must be guidedby trained and qualified person.*

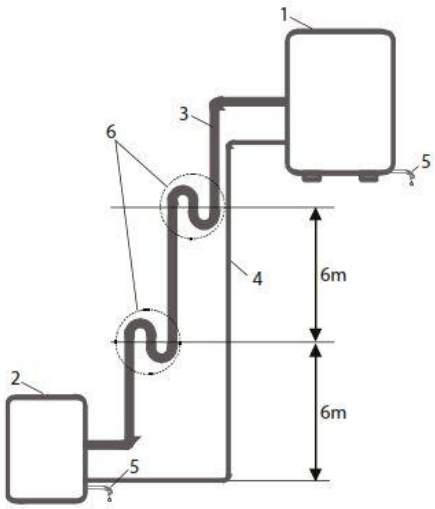
⚠ *Ensure that the recommende dspace is left around the appliance.*



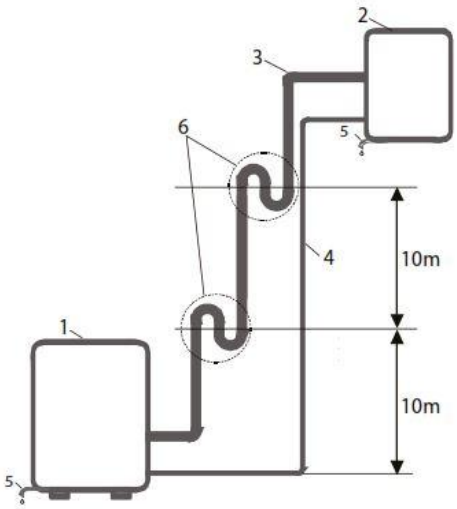
10.3 Number of connectable indoor units

Outdoor units (kW)	Number of connectable indoor units	
	Minimum number of connectable indoor units	Maximum number of connectable indoor units
5300 W	1	1
7100 W	1	1
10500 W	1	2 "TWIN"
14000 W	1	2 "TWIN"
17600 W	1	2 "TWIN"

10.4 Connection diagram of the system



1. Outdoor unit
2. Indoor unit
3. Gas pipe side (higher diameter)
4. Liquide pipe side
5. Draining pipe
6. Siphon



■ **Outdoor unit above and indoor unit below**

In this case, the inlet pipe (3) must be provided with siphons (6) every ***6 meters*** *of level difference. These siphons are to enable the return of the oil to the compressor. The connection pipes must be insulated.*

■ **Outdoor unit below and indoor unit above**

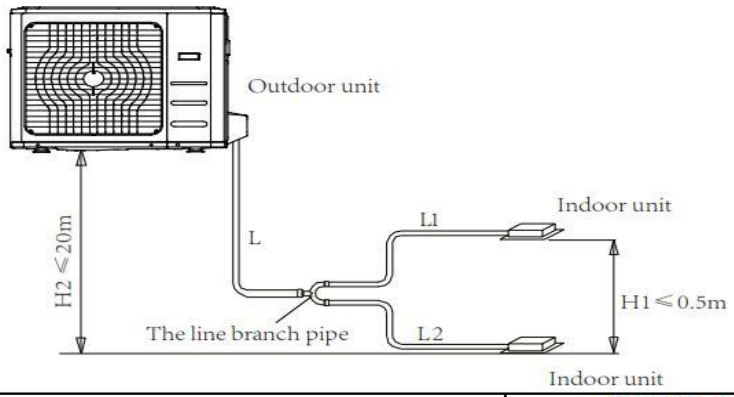
In this case, a siphon (3) must be created on the intake pipe (6) every ***10 meters*** *to block the flow of refrigerant and thus to avoid return of liquid to the compressor. The connection pipes must be insulated.*

N.B.: *The maximum height difference between the indoor and the outdoor units must not exceed the values indicated in the below table.*

Models (W)		**5300 W**	**7100 W**	**10500 W (1-phase)**	**10500 W (3-phase)**	**14000 W**	**17600 W**
Max. refrigerant pipe length	m	30	50	65	65	65	65
Max. difference in level	m	20	25	30	30	30	30

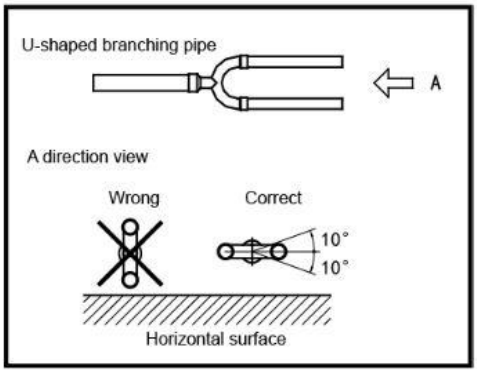
Attention: *Wrappipe insulating material around the joint and secure it with plastic straps to avoid condensation forming at the joints.*

■ **Outdoor units with TWIN function (on some models)**



		Permitted value		**Piping**
Pipe Length	Total pipe length (Actual)	**5300 W + 5300 W**	30m	L+Max(L1,L2)
		7100 W + 7100 W	50m	
	Max. branch pipe length		15m	L1, L2
	Max. branch pipe length difference		10m	L1-L2
Drop Height	Max. height difference between indoor unit and outdoor unit		20m	H1
	Max. height difference between indoor units		0.5m	H2

The branching pipe must be installed horizontally, error angle of it should not large than 10°. Otherwise, malfunction will be caused.



☞ ***Notes:***

1) The equivalent length of the branching tube is the 0.5m for the model D3T-RC1 and 1m for the model D3T-RC2.

2) Longer connection pipe will reduce the efficiency of the system.

10.5 Refrigerant connections

Models (W)		***5300 W***	***7100 W***	***10500 W (Monofase)***	***10500 W (trifase)***	***14000 W***	***17600 W***
Liquid side/Gas side	*mm*	*Φ6.35/Φ12.7*	*Φ9.52/Φ15.9*	*Φ9.52/Φ15.9*	*Φ9.52/Φ15.9*	*9.52/15.9*	*9.52/15.9*
	(inch)	*1/4"/1/2"*	*3/8"/5/8"*	*3/8"/5/8"*	*3/8"/5/8"*	*3/8"/5/8"*	*3/8"/5/8"*

10.6 Table with the tightening torques of refrigerator fittings

Diameter (inch)	***Pipe thickness (mm)***	***Tightening torque (Nm)***
1/4"	*≥0,8*	*15-30*
3/8"	*≥0,8*	*35-40*
1/2"	*≥1*	*45-50*
5/8"	*≥1*	*60-65*
3/4"	*≥1*	*70-75*
7/8"	*≥1*	*80-85*

10.7 Refrigerant connections

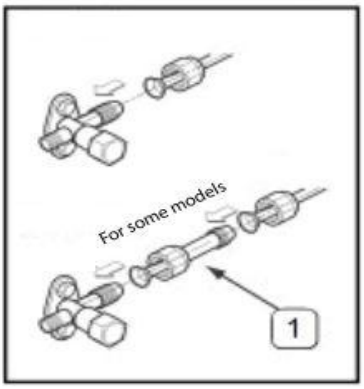
Comply with the following indications when connecting the cooling pipes:

- Match the ends of the previously flared pipe with those of the connections on the interior and exterior units.

- Tighten the union by hand and then torque it with the aid of an adequate wrench (it is advisable to use a fox wedge to prevent tensions from being created on the pipes).

- If necessary must be used an adapter (1) (see the figure in the right side) to enable correct connection.

Repeat the operation for the second cock.



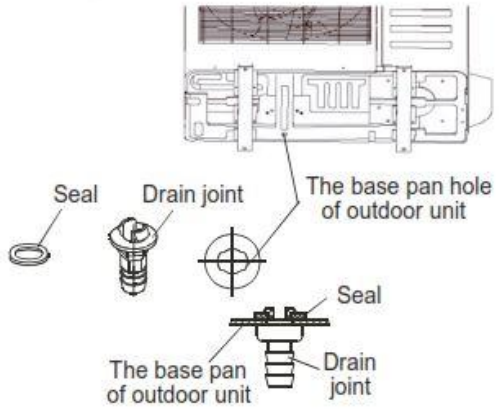
10.8 Notes on refrigerant pipes preparations

- *Use material and tools that are special for the refrigerant gas R32.*
- *When connecting or disconnecting the refrigerator line to or from the unit, use both keys, torque wrench and secure.*
- *Refer to the table to check the torque to apply to the fittings (excessive tightening would deform the bolt resulting in leakages).*
- *When connecting the refrigerant fittings with the pipes, tighten the bolts 3 or 4 times with a torque wrench, both on the indoor unit and on the outdoor unit.*
- *Ensure that there are no gas leaks from the fittings.*
- *Cover the refrigerant fittings again with insulating material.*
- *Identify the pipes and fittings with symbols or wording.*
- *Adjust the length of the pipes.*
- *The diameter of the refrigerator pipes depends on the indoor unit applied. The outdoor units are supplied with adapters to connect the refrigerant pipes to the connections if they have different diameters.*
- *The refrigerant is R32.*

- *Select copper pipes for gas and liquid, as indicated in the relative table (see the specifications of the refrigerant pipes table).*
- *Before assembling the pipe and its insulation, cover both ends of the pipe to protect it from dust and moisture.*
- *Try to avoid bending the pipes. If necessary, the radius of curvature can be over 100mm.*

10.9 Installation of the drain joint and the condensate drain hose

Fit the seal into the drain joint, then insert the drain joint into the base pan hole of outdoor, rotate 90 to securely assemble them. Connect the drain joint with an extension drain hose (Locally purchased), in case of the condensate draining off the outdoor unit during the heating mode.



10.10 Vacuum pump

Humid air left inside the refrigerant circuit can cause compressor malfunction. After having connected the indoor and outdoor units, bleed the air and humidity from the refrigerant circuit using a vacuum pump.

1) Unscrew and remove the caps from the 2-way and 3-way valves.

2) Unscrew and remove the cap from the service valve.

3) Connect the vacuum pump hose to the service valve.

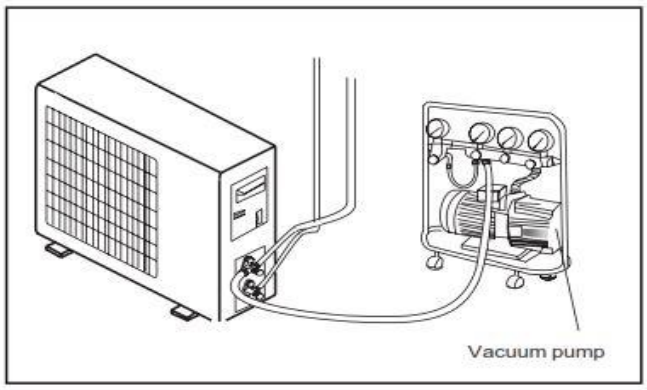
4) Operate the vacuum pump for 10-15minutes until an absolute vacuum of 10 mm Hg has been reached.

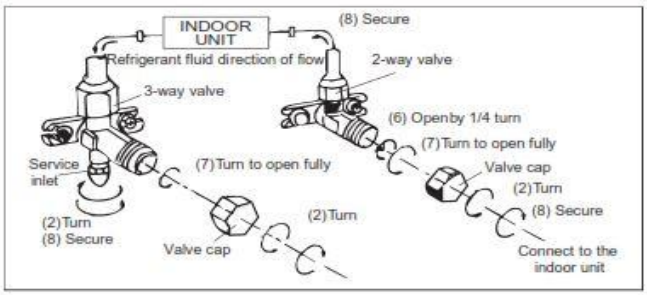
5) With the vacuum pump still in operation, close the low-pressure knob on the vacuum pump coupling. Stop the vacuum pump.

6) Open the 2-way valve by 1/4 turn and then close it after 10 seconds. Check all the joints for leaks using liquid soap or an electronic leak device.

7) Turn the body of the 2-way and 3-way valves. Disconnect the vacuum pump hose.

8) Replace and tighten all the caps on the valves (see paragraph 10.7 for tightening torque).



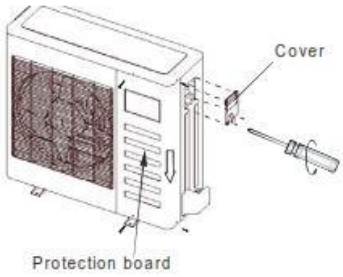


10.11 ELECTRICAL CONNECTIONS

Dissemble the bolts from the cover. (If there isn't a cover on the outdoor unit, disassemble the bolts from the maintenance board, and pull it in the direction of the arrow to remove the protection board.) (Refer to figure in the right)

■ *Connect the connective cables to the terminals as identified with their respective mached numbers on the terminal block.*

■ *Re-install the cover of the electric box.*



10.11.1 Specifications of the power supply and cables

MODELS (W)		3500	5300	7100	10500	10500	14000	17600
INDOOR UNIT POWER	PHASE	----	1-PHASE					
	FREQUENCY AND VOLT	----	220-240V~, 50Hz					
	POWER WIRING (mm²)	----	3 x 1.0					
	CIRCUIT BREAKER/FUSE (A)	----	15/10					
OUTDOOR UNIT POWER	PHASE	1-PHASE				3-PHASE		
	FREQUENCY AND VOLT	220-240V~, 50Hz				380-415V~, 50Hz		
	POWER WIRING (mm²)	3 x 2.5			3 x 4.0	5 x 2.5		
	CIRCUIT BREAKER/FUSE (A)	20/16	30/20		40/30	30/20	30/25	
INDOOR/OUTDOOR CONNECTING WIRING (mm²)		4X1.0	2-core shielded wire 2x0.2					

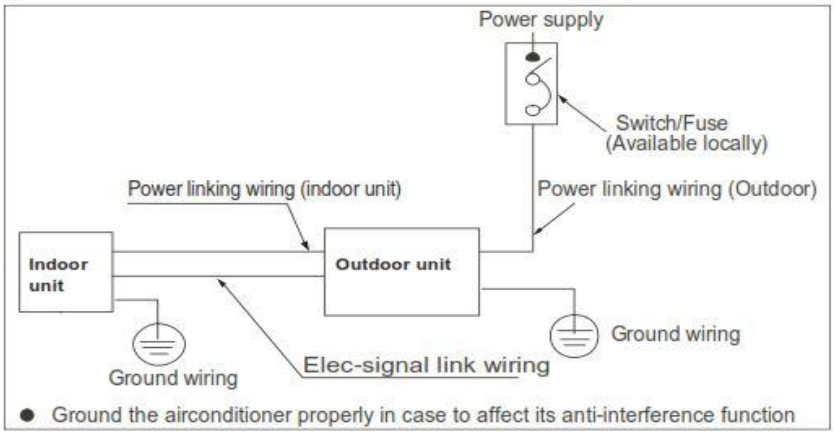
The power cord type designation is H07RN-F

10.11.2 Electrical Wiring diagrams

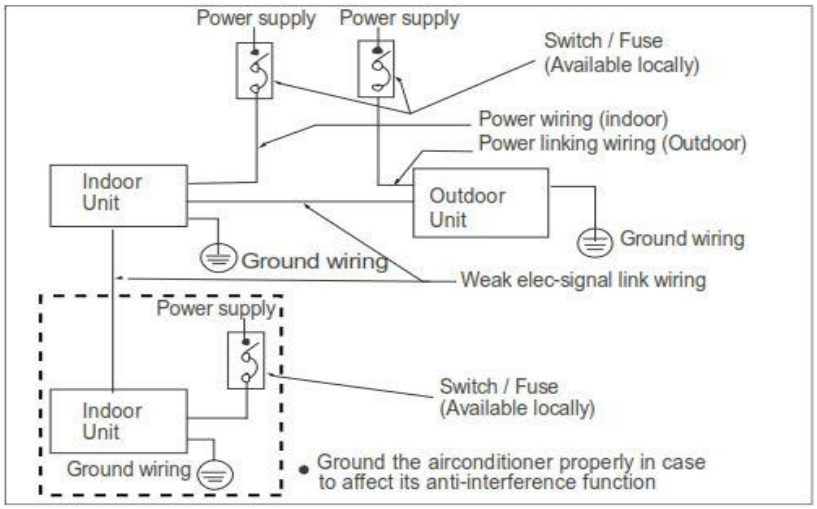
⚠ CAUTION	*The wiring diagram of the air-conditioner are shown as follows. When wiring, please choose the corresponding figure, or it may cause damage.*

■ ***Single-line diagram***

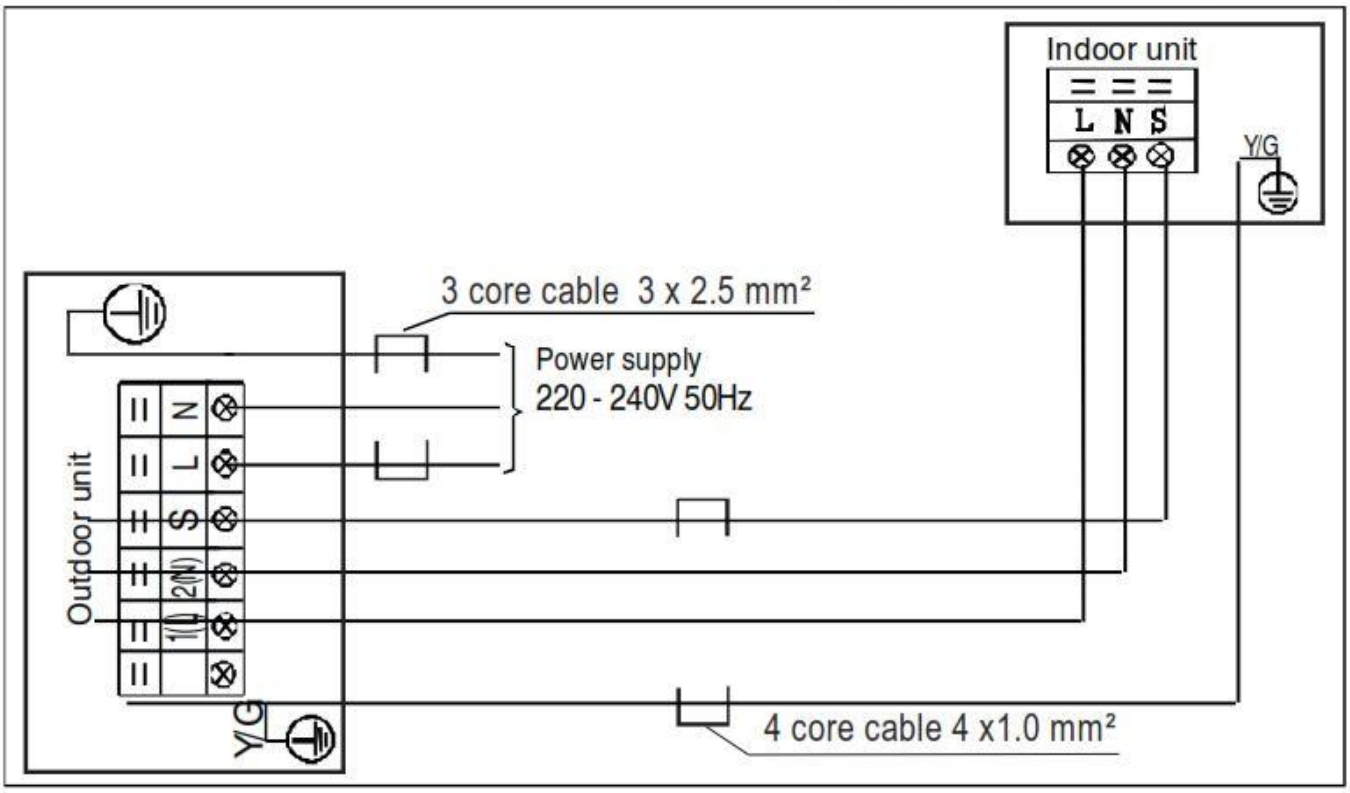
Mod. 3500 W



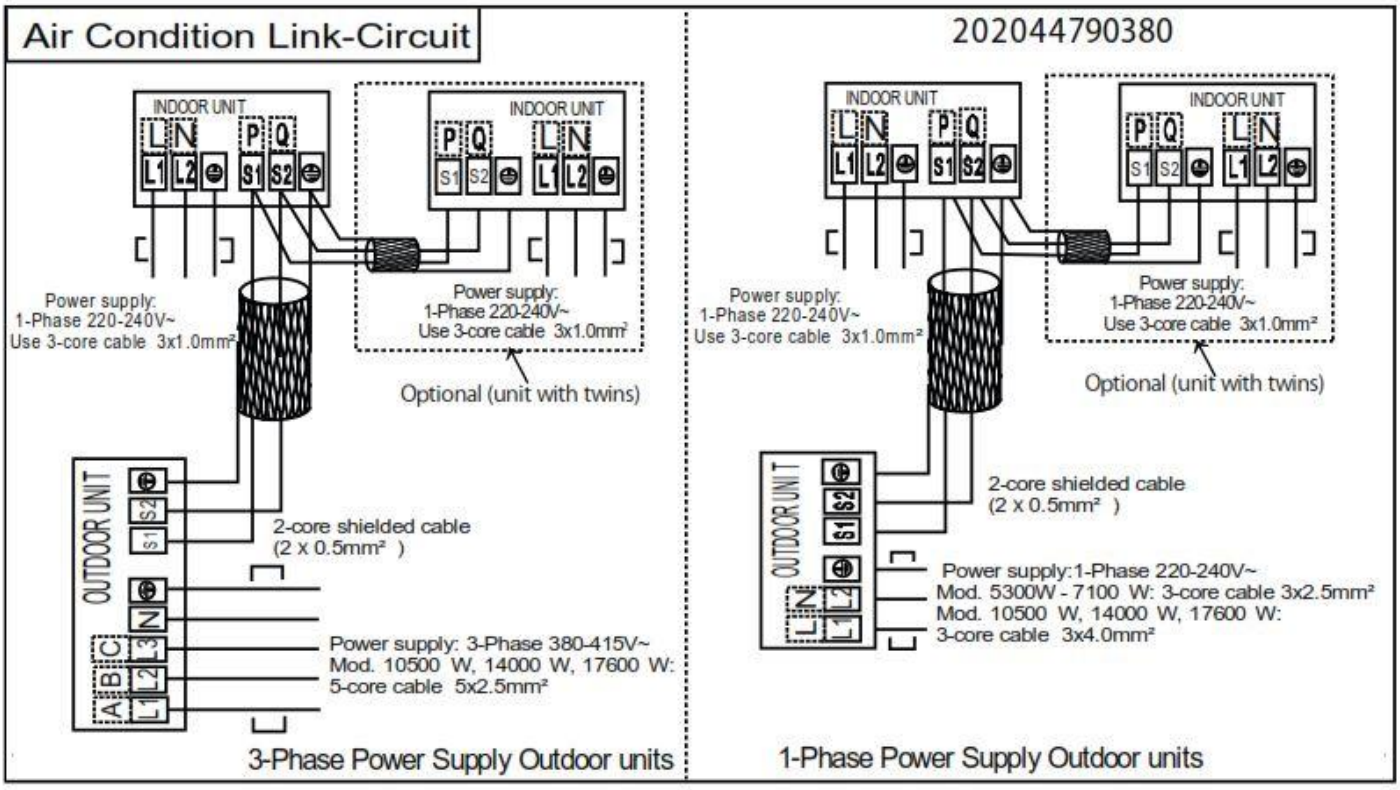
Mod. 5300 W – 17600 W



■ ***Connect sketch of the indoor unit to outdoor unit: Model 3500 W (Single phase outdoor unit)***



■ ***Connect sketch of the indoor unit to outdoor unit: Models 5300 W -17600 W***



11. CHECK AFTER INSTALLATION AND TEST OPERATION

11.1 Check after installation

Items to be checked	Possible malfunction
Has it been fixed reliable?	The unit may drop, vibrate or make noise.
Has the gas leakage been checked?	It may cause insufficient cooling (heating) capacity.
Is the thermal insulation of the unit sufficient?	It may cause condensation and dripping.
Is the drainage well?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or the components may be burned out
Are the lines and pipelines correctly installed?	It may cause electric malfunction or the components may be burned out
Has the unit been safely grounded?	It may cause electrical leakage.
Are the models of lines in conformity with requirements?	It may cause electric malfunction or the components may be burned out
Are there any obstacles near the air inlet and outlet of the indoor and outdoor units?	It may cause insufficient cooling (heating) capacity.
Have the length of connection pipes and refrigerant charge amount been recorded?	It is not easy to decide the charge amount of refrigerant.

11.2 TEST OPERATION

1) Before test operation

• The appearance of the unit and the refrigerant pipes cannot be damaged during the installation.

• Do not switch on power before installation is finished completely.

• Electrical wiring must be connected correctly and securely.

• The stop valves of the outdoor unit should be opened fully.

• All the impurities such as scraps and thrums must be cleared from the unit.

2) Test operation method

① The test operation should be carried out by the professionally skilled personnel.

② Set the status of the power supply switch as “ON” eight hours before the start of operation

③ Press mode button, to select the COOL, HEAT or FAN. Whether the air conditioner is work normally or not.

• The fan motor of the indoor unit will run automatically in one minute.

• The fan motor and compressor of the outdoor unit will run automatically in one minute.

• If the unit cannot work or has any abnormal noise after the compressor is started, turn off the unit for an immediate check.

④ Make sure that every combination of indoor units can work well.

12. TROUBLESHOOTING

If one of the following malfunctions occur, stop operation, shut off the power, and contact with the dealer.	
TROUBLES	Fuse or circuit breaker work frequently.
	Foreign matter or matter has fallen into the unit.
	Remote controller is disabled or the switch is out of order.
	Any other unusual condition is observed.

12.1 Trouble and causes of air conditioner

In any of the following conditions occur, check your unit and resolve corresponding problems referring to given remediation. If the trouble can't settled contact the dealer. (see the table below)

Trouble	Cause	Solutions
Unit does not start	Power failure.	Wait for the comeback of power
	Power switch is off.	Switch on the power
	Fuse of power switch may have burned.	Replace the fuse
	Batteries in remote controller are exhausted or other problem of controller.	Replace the batteries or check the controller
Air flowing normally without cooling (heating) effect	Temperature is not set correctly.	Set the temperature properly.
	Be in 3 minutes protection of compressor	Wait.
Units start or stop frequently	Refrigerant is too little or too much.	Check leakage, and rightly recharge refrigerant.
	Air or no concreting gas in the refrigerating circuit.	Vacuum and recharge refrigerant.
	Compressor is malfunction.	Maintenance or change compressor.
	Voltage is too high or too low.	Install manostat.
	System circuit is blocked.	Find reasons and solution.
Low cooling effect	Outdoor unit and indoor unit heat exchanger is dirty.	Clean the heat exchanger.
	The air filter is dirty.	Clean the air filter.
	Inlet/outlet of indoor/outdoor units is blocked.	Eliminate all dirties and make air smooth.
	Doors and windows are open	Close doors and windows.
	Sunlight directly shine.	Make curtains in order to shelter from sunshine.
	Too much heat resource.	Reduce heat source.
	Outdoor temp. is too high.	AC cooling capacity reduces (normal).
Low heating effect	Leakage of refrigerant or lack of refrigerant.	Check leakage and rightly recharge refrigerant
	Outdoor temperature is lower than 7°C	Use heating device.
	Doors and windows not completely closed.	Close doors and windows.
	Leakage of refrigerant or lack of refrigerant.	Check leakage and rightly recharge refrigerant.

13. MAINTENANCE

Check, maintenance and care regularly should be performed by professional personnel, which will prolong the unit service life.

13.1 Outdoor condenser

Outdoor condenser is required to be cleaned every two months. Use vacuum cleaner with nylon brush to clean up dust and sundries on the surface of condenser. Blow away dust by compressed air if it is available. Never use water to wash the condenser.

13.2 Drain pipe

In order to drain condensate smoothly, please check the drain pipe regularly is clogged or not.

13.3 Check before the seasonal use

- *Check the air inlet and outlet of the indoor and outdoor units to confirm there is no blockage.*
- *Check the ground wire to confirm the grounding is reliable.*
- *Check the batteries of the wireless remote controller to ensure that they have been replaced.*
- *Check the filter screen that it has been set soundly.*
- *If the air-conditioning unit shall be operated again after a long-term shut off, set the status of the power supply switch as "ON" eight hours before the start of operation, so as to ensure the successful startup of the air-conditioning unit.*

13.4 Maintenance after seasonal use

- *Turn off the power supply of the air conditioning unit and set the status of the power supply switch as "OFF".*
- *Clean the filter screen and the housing of the indoor and outdoor units.*
- *Remove the dust and the foreign matters of the outdoor unit.*

14. SAFETY OPERATION OF FLAMMABLE REFRIGERANT

14.1 Installation notes

• The air conditioner is not allowed to use in a room that has running fire (such as fire source, working coal gas ware, operating heater).

• It is not allowed to drill hole or burn the connection pipe.

• The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table.

Table a- Minimum room area (xm^2)

Minimum room area (xm^2)	**Charge amount (kg)**	**≤1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**	**1.8**	**1.9**	**2**	**2.1**	**2.2**	**2.3**	**2.4**	**2.5**
	Floor location	/	14.5	16.8	19.3	22	24.8	27.8	31	34.3	37.8	41.5	45.4	49.4	53.6
	Window mounted	/	5.2	6.1	7	7.9	8.9	10	11.2	12.4	13.6	15	16.3	17.8	19.3
	Wall mounted	/	1.6	1.9	2.1	2.4	2.8	3.1	3.4	3.8	4.2	4.6	5	5.5	6
	Ceiling mounted	/	1.1	1.3	1.4	1.6	1.8	2.1	2.3	2.6	2.8	3.1	3.4	3.7	4.

• Leak test is a must after installation.

14.2 Maintenance notes

• Check whether the maintenance area or the room area meet the requirement of the nameplate.

- It's only allowed to be operated in the rooms that meet the requirement of the nameplate.

• Check whether the maintenance area is well-ventilated.

- The continuous ventilation status should be kept during the operation process.

• Check whether there is fire source or potential fire source in the maintenance area.

- The naked flame is prohibited in the maintenance area; and the "no smoking" warning board should be hanged.

• Check whether the appliance mark is in good condition.

- Replace the vague or damaged warning mark.

14.3 Welding

If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:

a. Shut down the unit and cut power supply

b. Eliminate the refrigerant

c. Vacuuming

d. Clean it with N2 gas

e. Cutting or welding

f. Carry back to the service spot for welding

The refrigerant should be recycled into the specialized storage tank.

Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

14.4 Filling the refrigerant

• Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.

• The refrigerant tank should be kept upright at the time of filling refrigerant.

Stick the label on the system after filling is finished (or haven't finished).

Don't overfilling.

• After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's removed.

14.5 Safety instructions for transportation and storage

• Please use the flammable gas detector to check before unload and open the container.

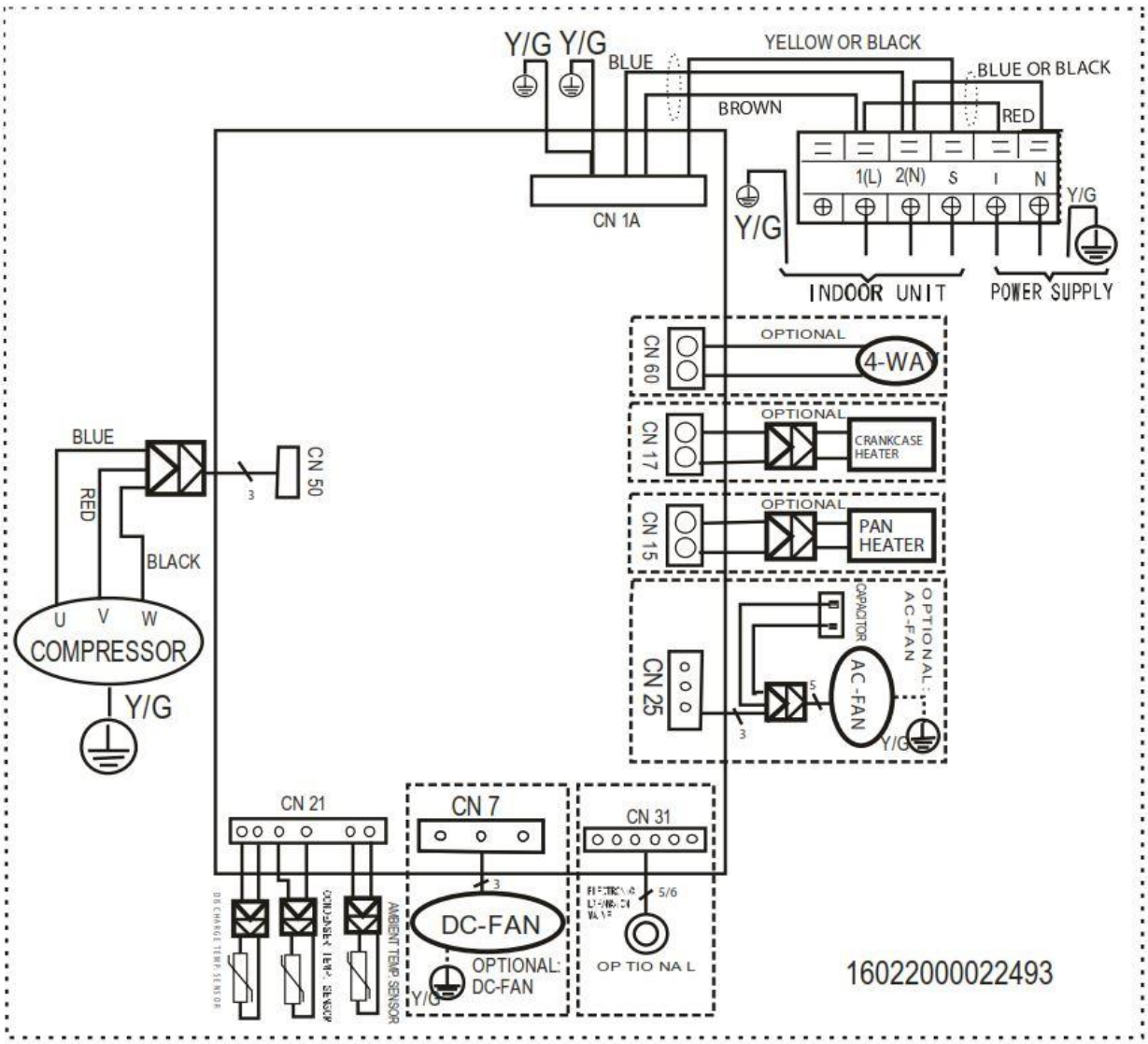
• No fire source and smoking.

• According to the local rules and laws.

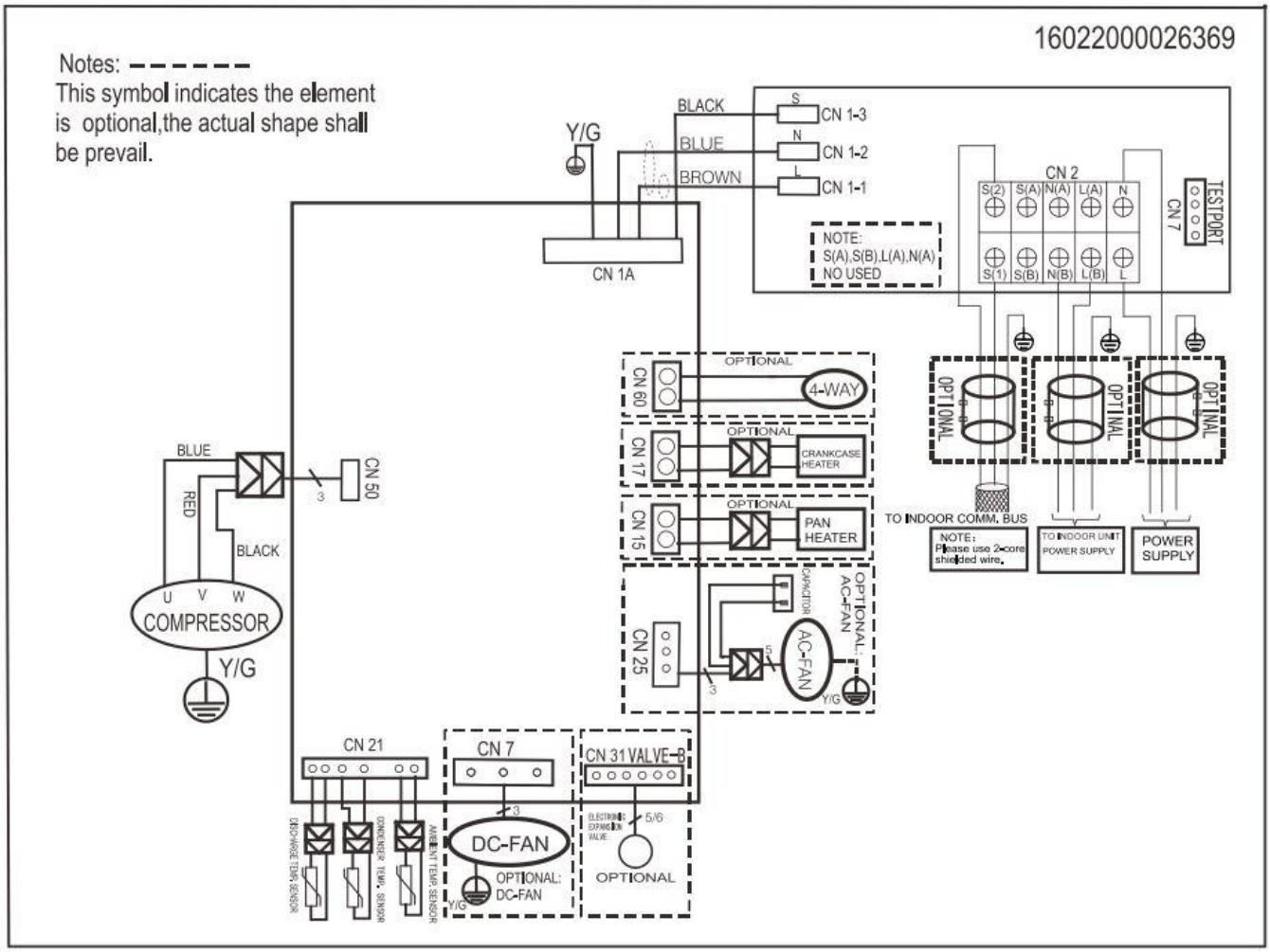
ANNESSI/ANNEXES

1. SCHEMI ELETTRICI / *WIRING DIAGRAMS*

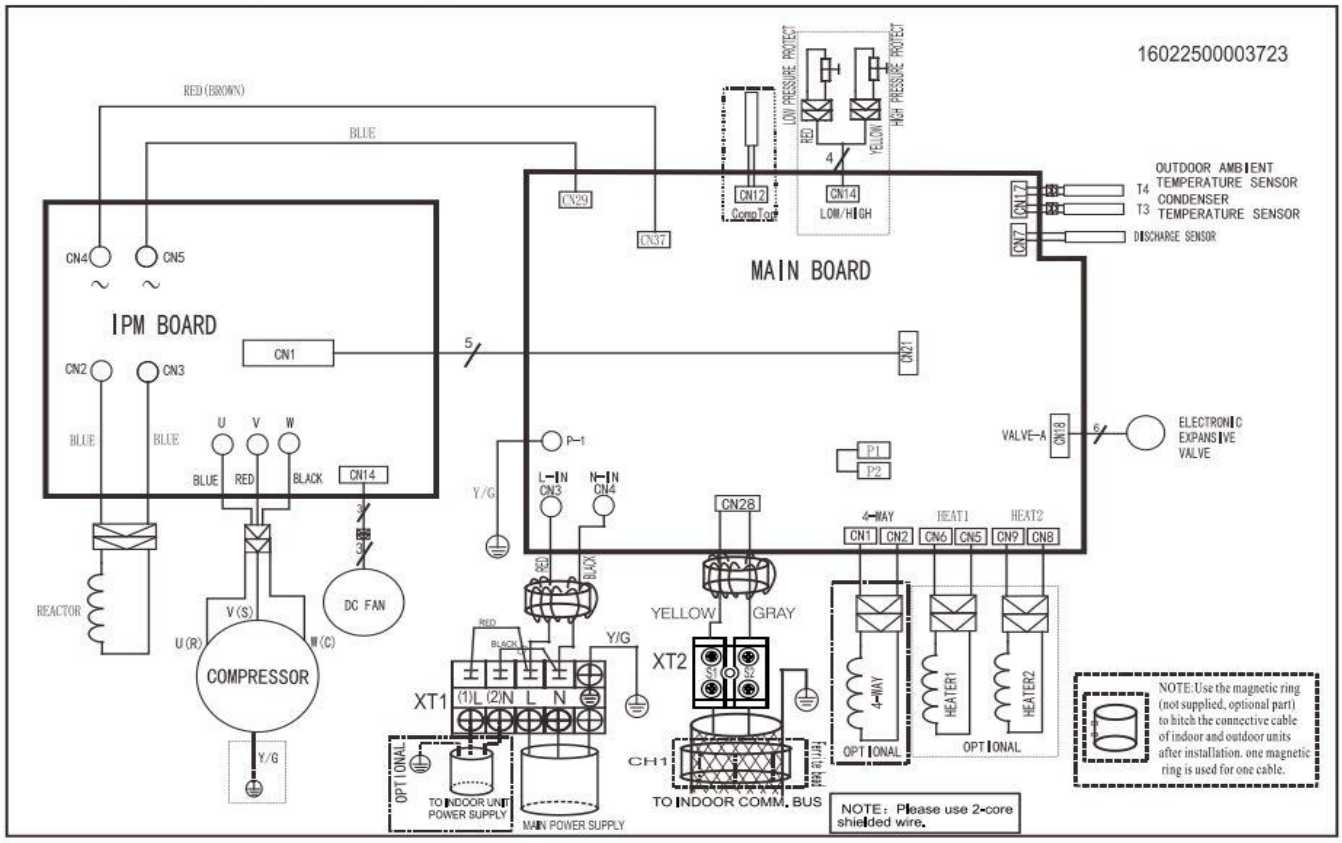
Mod.: SUPER DC INVERTER (3500 W)



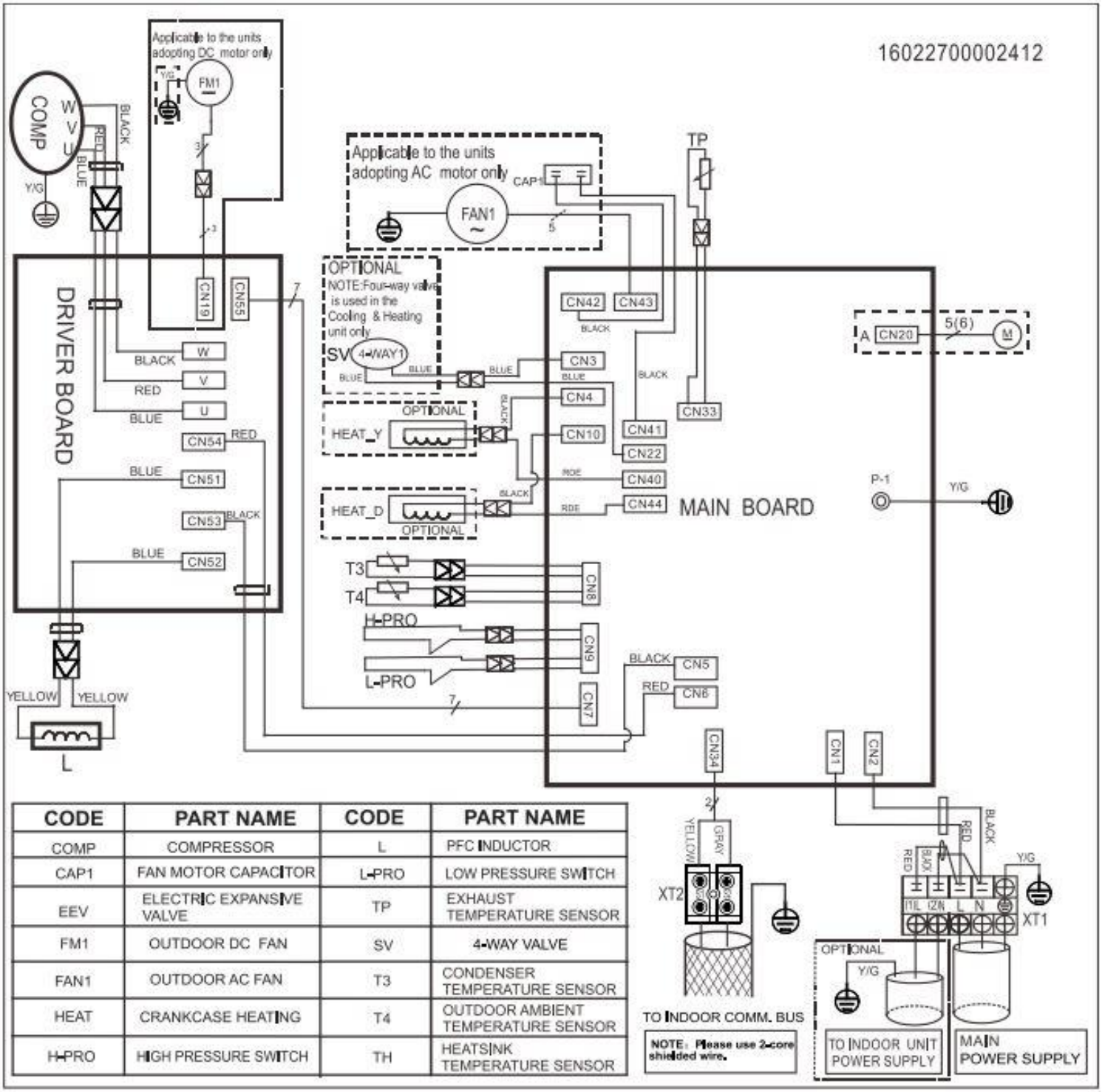
Mod.: SUPER DC INVERTER (5300 W)



Mod.: SUPER DC INVERTER (7100 W)

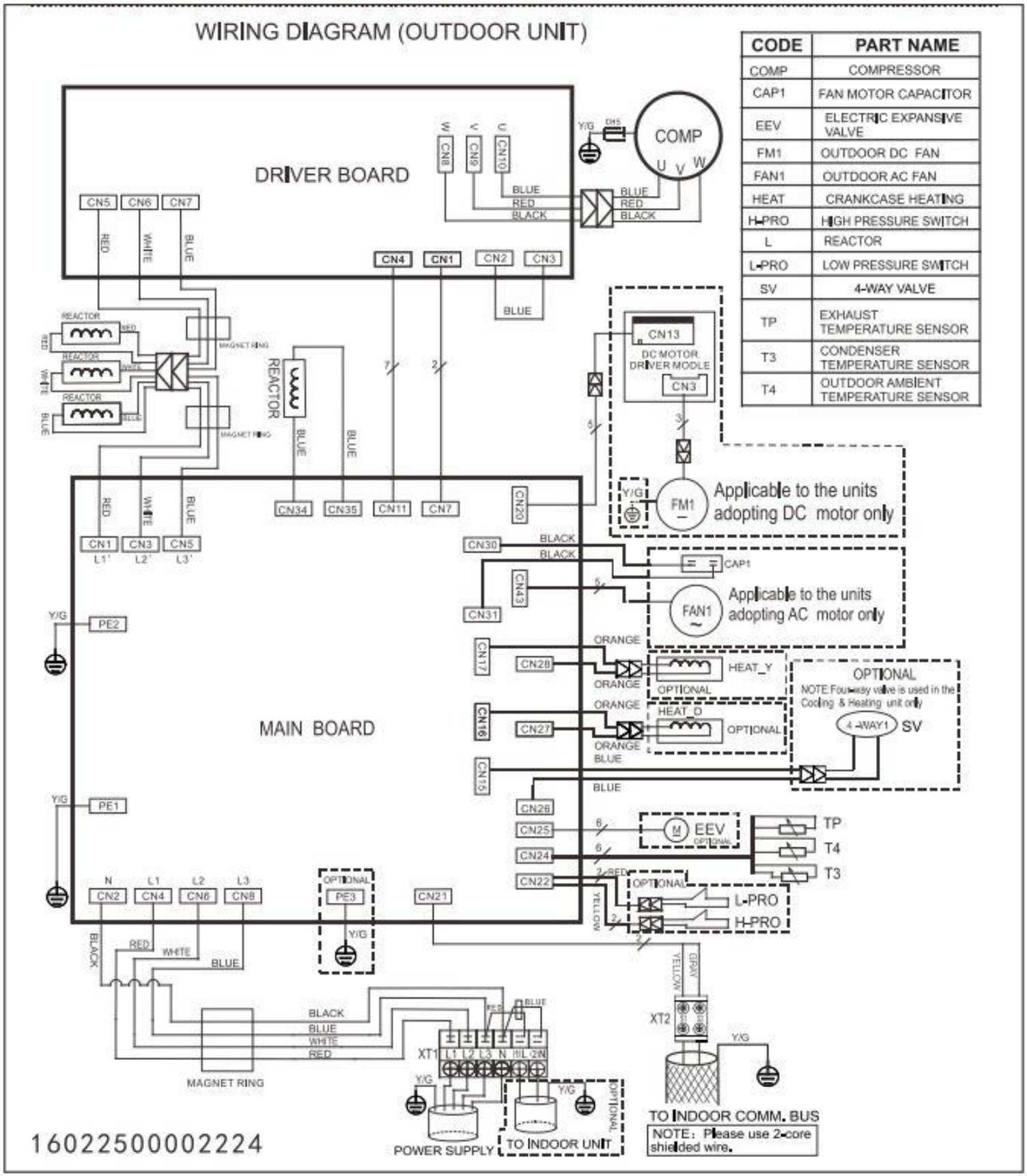


Mod.: SUPER DC INVERTER (10500 W) SINGLE PHASE POWER SUPPLY



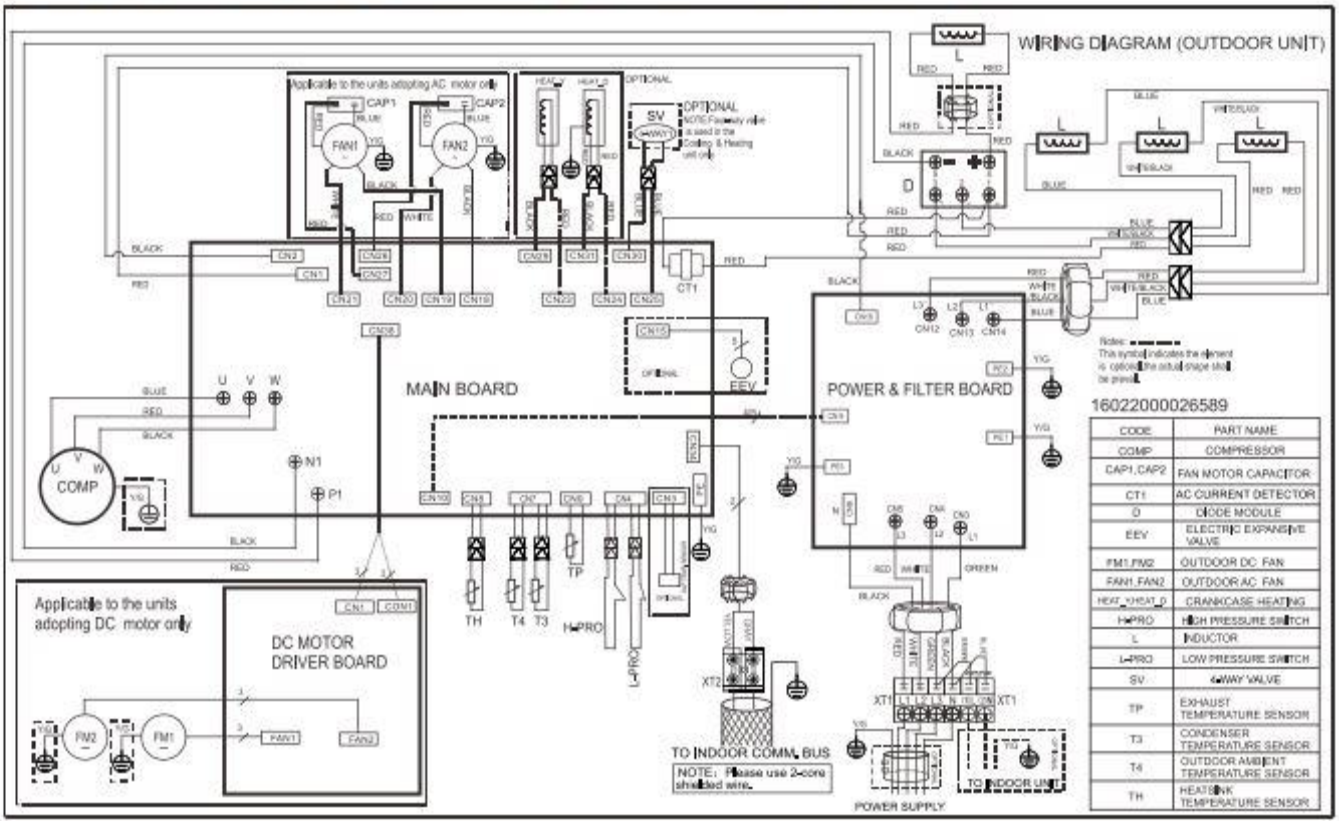
CODE	PART NAME	CODE	PART NAME
COMP	COMPRESSOR	L	PFC INDUCTOR
CAP1	FAN MOTOR CAPACITOR	L-PRO	LOW PRESSURE SWITCH
EEV	ELECTRIC EXPANSIVE VALVE	TP	EXHAUST TEMPERATURE SENSOR
FM1	OUTDOOR DC FAN	SV	4-WAY VALVE
FAN1	OUTDOOR AC FAN	T3	CONDENSER TEMPERATURE SENSOR
HEAT	CRANKCASE HEATING	T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
H-PRO	HIGH PRESSURE SWITCH	TH	HEATSINK TEMPERATURE SENSOR

Mod.: SUPER DC INVERTER (10500 W) THREE PHASE POWER SUPPLY



CODE	PART NAME
COMP	COMPRESSOR
CAP1	FAN MOTOR CAPACITOR
EEV	ELECTRIC EXPANSIVE VALVE
FM1	OUTDOOR DC FAN
FAN1	OUTDOOR AC FAN
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L	REACTOR
L-PRO	LOW PRESSURE SWITCH
SV	4-WAY VALVE
TP	EXHAUST TEMPERATURE SENSOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR

Mod.: DC INVERTER (14000 W and 17600 W) THREE PHASE POWER SUPPLY



CODE	PART NAME
COMP	COMPRESSOR
CAP1,CAP2	FAN MOTOR CAPACITOR
CT1	AC CURRENT DETECTOR
D	DIODE MODULE
EEV	ELECTRIC EXPANSIVE VALVE
FM1,FM2	OUTDOOR DC FAN
FAN1,FAN2	OUTDOOR AC FAN
HEAT_1/HEAT_2	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L	INDUCTOR
L-PRO	LOW PRESSURE SWITCH
SV	4-WAY VALVE
TP	EXHAUST TEMPERATURE SENSOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
TH	HEATSINK TEMPERATURE SENSOR

2. LEGENDA / KEY / LEGENDE / LEYENDA / LEGENDE

ENGLISH	ITALIANO	DEUTSCH	ESPAÑOL	FRANÇAIS
ROOM TEMP. SENSOR	SENSORE TEMP. INTERNA	INNENTEMPERATURSFÜHLER	SENSOR TEMP. INTERNA	CAPTEUR TEMP. INTERNE.
PIPE TEMP. SENSOR	SENSORE TEMP..EVAP.	VERDAMPFERTEMPERATURSFÜHLER	SENSOR TEMP.	CAPTEUR TEMP.
POWER SUPPLY	ALIMENTAZIONE	SPEISUNG	ALIMENTACIÓN	EVAPORATEUR.
SWING MOTOR	MOTORE ALETTE	RIPPEN MOTOR	MOTOR ALETAS	ALIMENTATION
IN FAN	VENTILATORE INTERNO	LÜFTER MOTOR	MOTOR VENTILADOR	MOTORE ALETTE
INDOOR UNIT	UNITA' INTERNA	INNENEINHEIT	UNIDAD INTERNA	MOTEUR VENTILATEUR
AMBIENT SENSOR	SENSORE TEMP. ESTERNA	AUßENTEMPERATURSFÜHLER	SENSOR TEMP. EXTERNA	UNITÉ INTERNE
DISCHARGE SENSOR	SENSORE TEMP. MANDATA	ABLUFTTEMPERATURSFÜHLER	SENSOR TEMP. ENVÍO	CAPTEUR TEMP. EXTERNE
EXPANSIVE VALVE	VALVOLA DI ESPANSIONE	AUFBLASEN ELEKTRONISCHE VENTIL	VÁLVULA DE INFLAMIENTO	CAPTEUR TEMP.
RT: TEMPERATURE SENSOR	SENSORE TEMPERATURA	TEMPERATURSFÜHLER	SENSOR TEMPERATURA	REFOULEMENT
OUTDOOR UNIT:	UNITA' ESTERNA	AUßENEINHEIT	UNIDAD EXTERNA	VANNE D'EXPANSION
HEATER	RISCALDATORE	HEIZER	CALENTADOR	CAPTEUR DE TEMPERATURE
DISPLAY BOARD	DISPLAY	DISPLAY	DISPLAY	UNITE EXTERNE
JUMP	CONNETTORE	VERBINDER	CONECTOR	RÉSISTANCE ÉLECTRIQUE
IONIZER	IONIZZATORE	IONISIERER	IONIZADOR	AFFICHEUR
MAIN BOARD	SCHEDA DI CONTROLE.	HAUPTPLATINE	FICHA PRINCIPAL	CONNECTEUR
BROWN	MARRONE	BRAUN	MARRÓN	IONISEUR
BLUE	BLU	BLAU	AZUL	CARTE DE CONTROLE
BLACK	NERO	SCHWARZ	NIGRO	MARRON
Y/G: YELLOW GREEN	Y/N: GIALLO VERDE	Y/G: GELBGRÜN	Y/G: AMARILLO VERDE	BLEU
WHITE	BIANCO	WEISS	BLANCO	NOIRE
YELLOW	GIALLO	GELB	AMARILLO	Y/G: GIALLO VERDE
RED	ROSSO	ROT	ROJO	BLANC
CN: CONNECTOR ON BOARD	CN: CONNETTORE SU SCHEDA	CN: VERBINDER AUF PLATINE	CN: CONECTOR EN FICHA	JAUNE
L: PHASE	L: FASE	L: PHASE	L: FASE	ROUGE
N: NEUTRAL	N: NEUTRO	N: NEUTRAL	N: NEUTRO	CN: CONNECTEUR SUR CARTE
				L: PHASE
				N: NEUTRE

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