Installation and maintenance manual
Notice d'installation et de maintenance
Installations und Wartungshandbuch
Manuale di installazione e di manutanzione
Manual de instalacion y de mantenimiento
Инструкция по эксплуатации и обслуживанию

UCA

7-9-12-15-18
24-30-36-45N

FLO 7-9-12-14-18-24-30

WAF 7-9-12-17

SX 9-12-15-18-24-30

DLS 18-24-30-37-44

KXL 24-30

K 9-11-15-18

English | Français | Deutsch | Italiano | Español | РУССКИИ

WATER-COOLED CONDENSING UNIT
SPLIT-SYSTEM A CONDENSATION PAR EAU
SPLIT-SYSTEM MIT WASSERGEKÜHLTEM VERFLÜSSIGERAGGREGAT
SISTEMA SPLIT CON CONDENSAZIONE AD ACQUA
EQUIPOS PARTIDOS DE CONDENSACIÓN POR AGUA
КОНДЕНСАТОРНЫЙ АГРЕГАТ С ВОДЯНЫМ ОХЛАЖДЕНИЕМ

R-410A

IOM UCA 01-N - Part number / Code / code / Codice / Código / Код : **C27015800**

CE

INSTALLATION INSTRUCTION English

NOTICE D'INSTALLATION Français

INSTALLATIONSHANDBUCH Deutsch

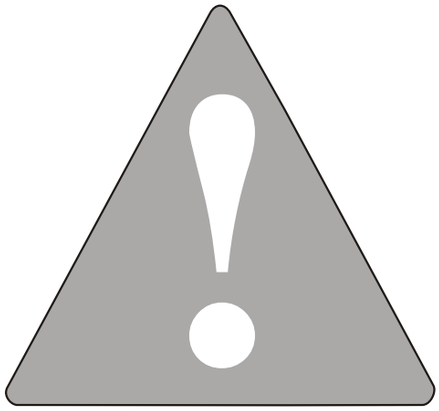
ISTRUZIONI INSTALLAZIONE Italiano

INSTRUCCIONES DE INSTALACIÓN Español

ИНСТРУКЦИЯ ПО УСТАНОВКЕ РУССКИИ

English

CONTENTS



POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING TO WORK IN THE ELECTRIC CONTROL BOX

English

GENERAL RECOMMENDATIONS

Please read the following safety precautions very carefully before installing the unit.

SAFETY DIRECTIONS

Follow the safety rules in forces when you are working on your appliance.

The installation, commissioning and maintenance of these units should be performed by qualified personnel having a good Knowledge of standards and local regulations, as well as experience of this type of equipment.

The unit should be handled using lifting and handling equipment appropriate to the unit's size and weight.

Any wiring produced on site must comply with the corresponding national electrical regulations.

Make sure that the power supply and its frequency are adapted to the required electric current of operation, taking into account specific conditions of the location and the current required for any other appliance connected with the same circuit.

The unit must be EARTHED to avoid any risks caused by insulation defects.

It is forbidden to start any work on the electrical components if water or high humidity is present on the installation site.

WARNING

Cutoff power supply before starting to work on the appliance.

When making the hydraulic connections, ensure that no impurities are introduced into the pipe work.

The manufacturer declines any responsibility and the warrantly becomes void if these instructions are not respected.

If you meet a problem, please call the Technical Department of your area.

If possible, assemble the compulsory or optional accessories before placing the appliance on its final location. (see instructions provided with each accessory).

In order to become fully familiar with the appliance, we suggest to read also our Technical Instructions.

-The informations contained in these Instructions are subject to modification without advance notice.

English

INSPECTION AND STORAGE

At the time of receiving the equipment carefully cross check all the elements against the shipping documents in order to ensure that all the crates and boxes have been received. Inspect all the units for any visible or hidden damage.

In the event of shipping damage, write precise details of the damage on the shipper's delivery note and send immediately a registered letter to the shipper within 48 hours, clearly stating the damage caused. Forward a copy of this letter to the manufacturer or their representative.

Never store or transport the unit upside down.

WARRANTY

The appliances are delivered fully assembled, factory tested and ready to operate.

Any modification to the units without the manufacturer's prior approval, shall automatically render the warranty null and void.

The following conditions must be respected in order to maintain the validity of the warranty:

- Commissioning shall be performed by specialised technicians from technical services approved by the manufacturer.
- Maintenance shall be performed by technicians trained for this purpose.
- Only Original Equipment spare parts shall be used.
- All the operations listed in the present manual shall be performed within the prescribed SHEDULE

THE WARRANTY SHALL BE NULL AND VOID IN THE EVENT
OF NON-COMPLIANCE WITH ANY OF THE ABOVE CONDITIONS.

CONTENTS OF PACKAGE

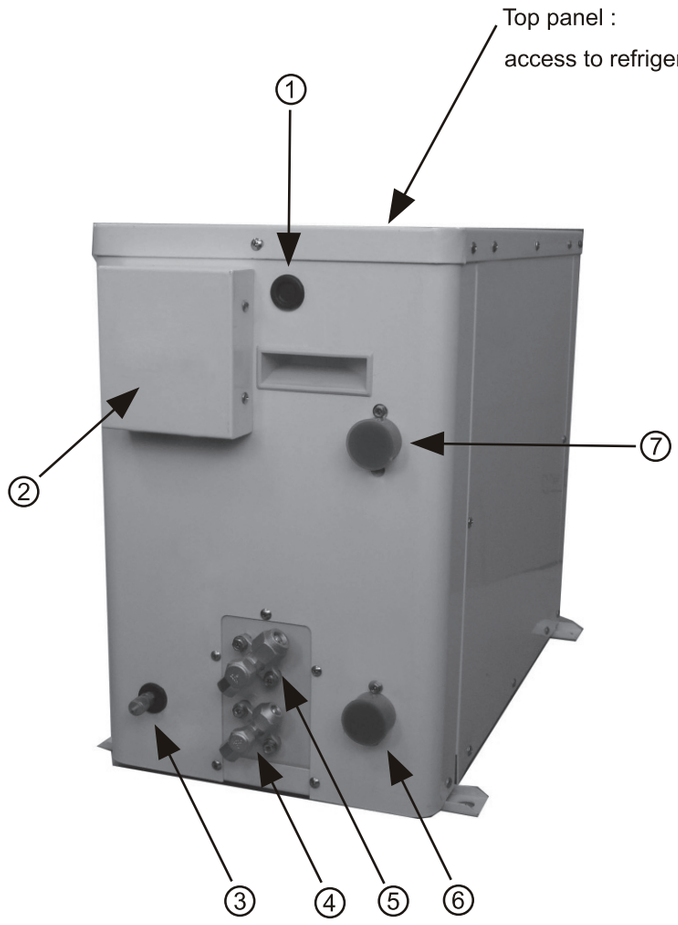
1	UCA (outdoor unit)
1	Bag with documents
1	Installation manual
4	Rubber Cushion
1	Resistor
1	WEEE User Manual

GENERAL

The water-cooled condenser units (UCA) are intended to be connected to SPLIT-SYSTEM (ST) air treatment units.

These water-cooled condenser units can also be used with other equipment for specific applications and in accordance with refrigeration engineering best practices.

DESCRIPTION



1 High pressure safety Pressostat reset control

2 Access to electrical connections terminal block

3 Condenser drain valve

4 LIQUID pipe valve

5 GAS pipe valve

6 Condenser water outlet (*)

7 Condenser water inlet (*)

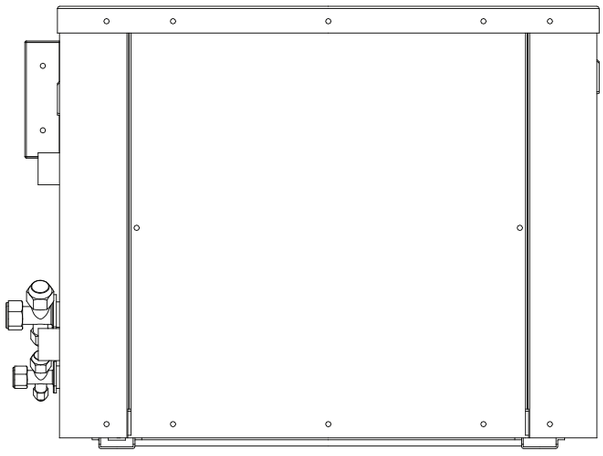
*NOTE :

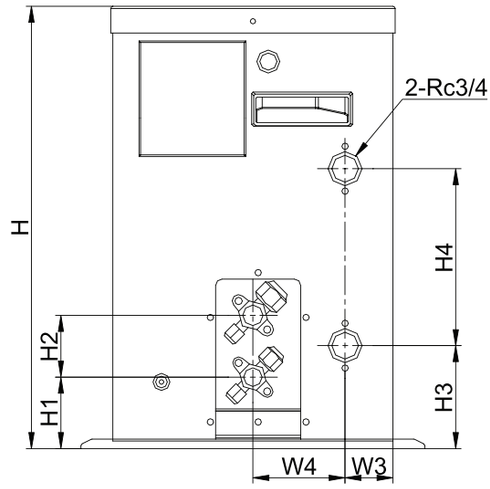
A bypass, outside the UCA, is to be installed if the system is supplied with recycled water
In case of recycled water application, please take off water regulating valve.

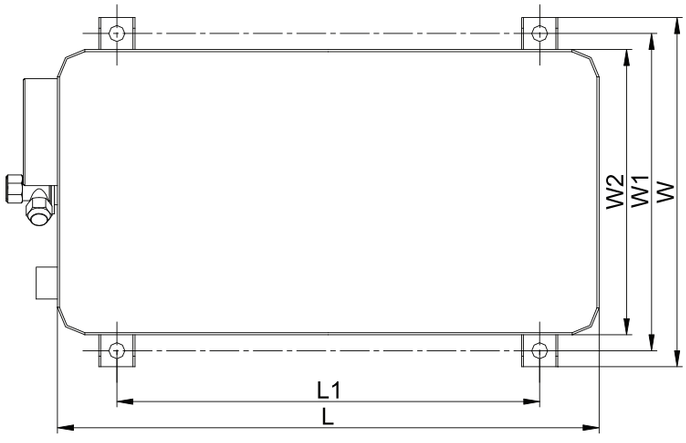
English

English

DIMENSIONS







	7 - 9 - 12 15- 18 - 24	24	30 - 36 - 45
L	578	578	608
L1	469	469	480
W	360	360	410
W1	330	330	380
W2	308	308	358
W3	50	50	50
W4	100	100	95
H	473	473	535
H1	69	69	69
H2	58	58	71
H3	96	60	105
H4	218	233	213

WEIGHT

UCA								
7	9	12	15	18	24	30	36	45
40 kg	41 kg	45 kg	46 kg	50 kg	56 kg	64 kg	85 kg	88 kg

ELECTRIC SPECIFICATIONS

POWER SUPPLY ~230 V - 50 HZ

TYPE OF APPLIANCE		UCA 7	UCA 9	UCA 12	UCA 15	UCA 18	UCA 24	UCA 30
Total starting current	A	15	21	31	33	32	45	63
COOLING + VENTILATION								
Nominal current	A	2.3	3.2	4.4	5.2	6.1	9.6	12
Maximum current	A	2.8	3.8	5.2	6.3	7.3	11.5	14.2
Fuse rating G*	A	10	10	10	10	10	16	20
Fuse rating ASE/VDE*	A	10	10	10	10	10	16	20
Power supply cable	mm²	3 G 1.5	3 G 1.5	3 G 1.5	3 G 1.5	3 G 1.5	3 G 2.5	3 G 4
Linking								
Maximum current	A	2.8	3.8	5.2	6.3	7.3	11.5	14.2
Cable section	mm²	3 G 1.5	3 G 1.5	3 G 1.5	3 G 1.5	3 G 1.5	4 G 2.5	4 G 4

POWER SUPPLY 3N ~400 V - 50 HZ

TYPE OF APPLIANCE		UCA 36	UCA 45
Total starting current	A	61	66
COOLING + VENTILATION			
Nominal current	A	6.5	7.0
Maximum current	A	7.2	8.0
Fuse rating G*	A	10	10
Fuse rating ASE/VDE*	A	10	10
Power supply cable	mm²	5 G 1.5	5 G 1.5
Linking			
Maximum current	A	2	2
Cable section	mm²	4 G 1.5	4 G 1.5

IMPORTANT

* These datas are given for guidance only. They must be checked at commissioning according to prevailing standards. They depend on the installation and the cables used.

REFRIGERATION SPECIFICATIONS

		UCA								
Characteristics		7	9	12	15	18	24	30	36	45
GAS pipe	Pipe Ø	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"	3/4"
LIQUID pipe	Pipe Ø	1/4"	1/4"	1/4"	1/4"	1/4"	3/8"	3/8"	3/8"	3/8"
Charge per unit (factory filled for 7.5m pipe length)	g	530	490	570	660	730	1160	1350	1600	1800

The refrigerant fluid charges are provided for information purposes only. When filling the installation with these products (Split) this charge is to be added to optimise their performance.

Therefore, both the installation itself and its environment are critical parameters for its proper operation.

English

English

REFRIGERANT CHARGE ADJUSTMENT

A charge adjustment may be required depending on the pipe connection lengths and the type of air treatment unit. (Refer to table below and page 9 for calculating the amount of the charge to be introduced in the system).

Qualified personnel, following refrigeration engineering best practices, must perform this operation. The additional charge is introduced via the outdoor unit FLARE connector (large connector) service valve.

All interventions on the refrigerating circuits must be performed in accordance with the recommendations of CEGOMAF GT-1-001 (Recommendations on refrigerant fluid dispersal in the atmosphere).

INDOOR UNIT R410A

	UCA 7		UCA 9				UCA 12				UCA 15		
	FLO7	WAF7	FLO9	WAF9	SX9	K9	FLO12	WAF12	SX12	K11	FLO14	SX15	K15
7.5m pipe length	90g	0g	60g	0g	100g	150g	60g	0g	80g	80g	0g	50g	100g
Max. pipe length(m)	10		16				25						

PIPE CONNECTION LENGTHS														
1m														
2m														
3m														
4m	-25g						-50g							
5m	-15g						-35g							
6m	-5g						-20g							
7m	0g						-5g							
8m	5g						10g							
9m	15g						25g							
10m	25g						40g							
11m			35g				55g							
12m			45g				70g							
13m			55g				85g							
14m			65g				100g							
15m			75g				115g							
16m			85g				130g							
17m							145g							
18m							160g							
19m							175g							
20m							190g							
21m							205g							
22m							220g							
23m							235g							
24m							250g							
25m							265g							

	UCA 18					UCA 24				UCA 30				UCA 36	UCA 45
	FLO18	WAF17	SX18	K18	DLS18	FLO24	SX24	KXL24	DLS24	FLO30	SX30	KXL30	DLS30	DLS37	DLS44
7.5m pipe length	130g	0g	110g	60g	200g	0g	140g	0g	160g	0g	150g	0g	100g		
Max. pipe length(m)	25														

PIPE CONNECTION LENGTHS				
1m	-117g	-195g	-130g	-163g
2m	-99g	-165g	-110g	-138g
3m	-81g	-135g	-90g	-113g
4m	-63g	-105g	-70g	-88g
5m	-45g	-75g	-50g	-63g
6m	-27g	-45g	-30g	-38g
7m	-9g	-15g	-10g	-13g
8m	9g	15g	10g	12g
9m	27g	45g	30g	37g
10m	45g	75g	50g	62g
11m	63g	105g	70g	87g
12m	81g	135g	90g	112g
13m	99g	165g	110g	137g
14m	117g	195g	130g	162g
15m	135g	225g	150g	187g
16m	153g	255g	170g	212g
17m	171g	285g	190g	237g
18m	189g	315g	210g	262g
19m	207g	345g	230g	287g
20m	225g	375g	250g	312g
21m	243g	405g	270g	337g
22m	261g	435g	290g	362g
23m	279g	465g	310g	387g
24m	297g	495g	330g	412g
25m	315g	525g	350g	437g

English

INSTALLATION

INSTALLING THE INDOOR UNITS (ST)

For installation of the indoor units, refer to the installation guide supplied with the indoor units :

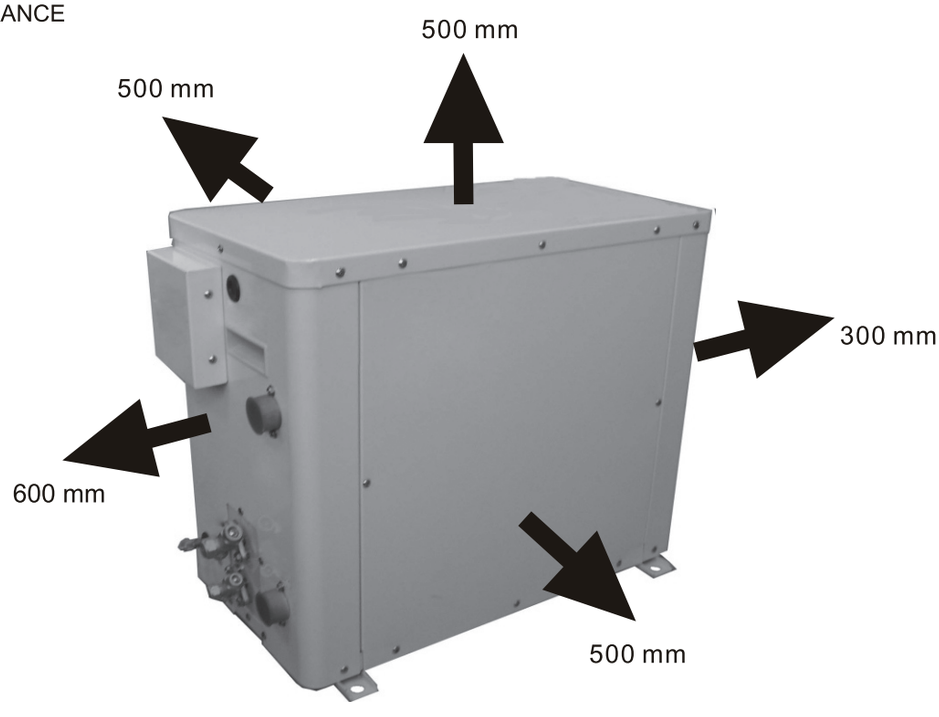
- FLO 7 / 9 / 12 / 14 / 18 / 24 / 30
- WAF 7 / 9 / 12 / 17
- SX 9 / 12 / 15 / 18 / 24 / 30
- K 9 / 11 / 15 / 18
- KXL 24 / 30
- DLS 18 / 24 / 30 / 37 / 44

The indoor unit can be installed either above or below the unit.

The unit is not designed to withstand weights or stresses from adjacent equipment, pipe work or constructions. Any foreign weight or stress on the unit structure could lead to a malfunction or a collapse with dangerous consequences for personnel and property. In such an event, the warranty shall be null and void.

It is recommended that the UCA be placed as near as possible to its final installation location.

CLEARANCE



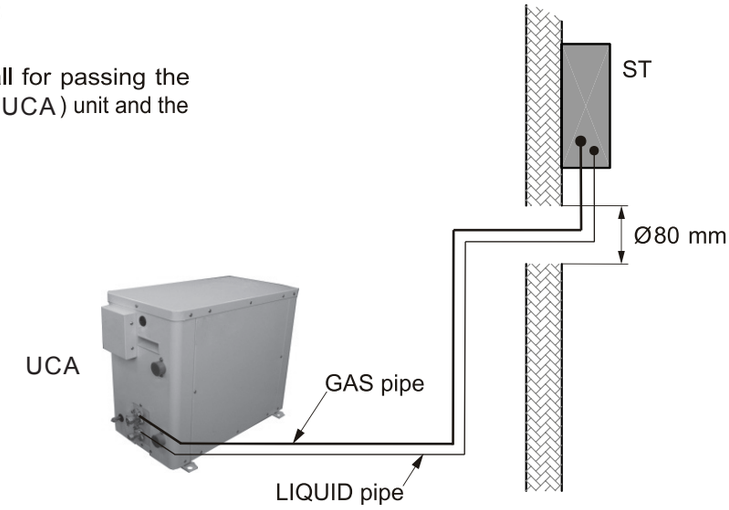
ATTACHMENT TO THE GROUND

The UCA is designed for bolting to the floor via 4 holes Ø 15 mm.

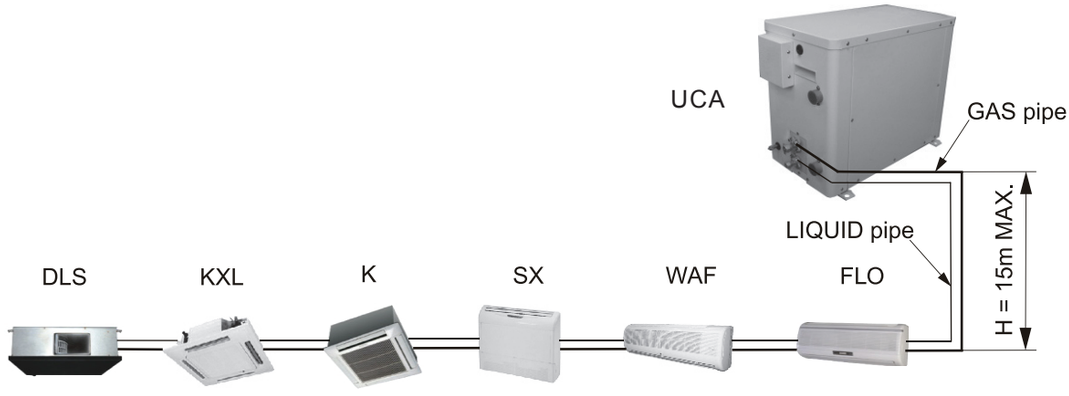
English

REFRIGERANT CONNECTIONS

Drill an Ø 80 mm hole in the wall for passing the connections between the outdoor (UCA) unit and the indoor unit.

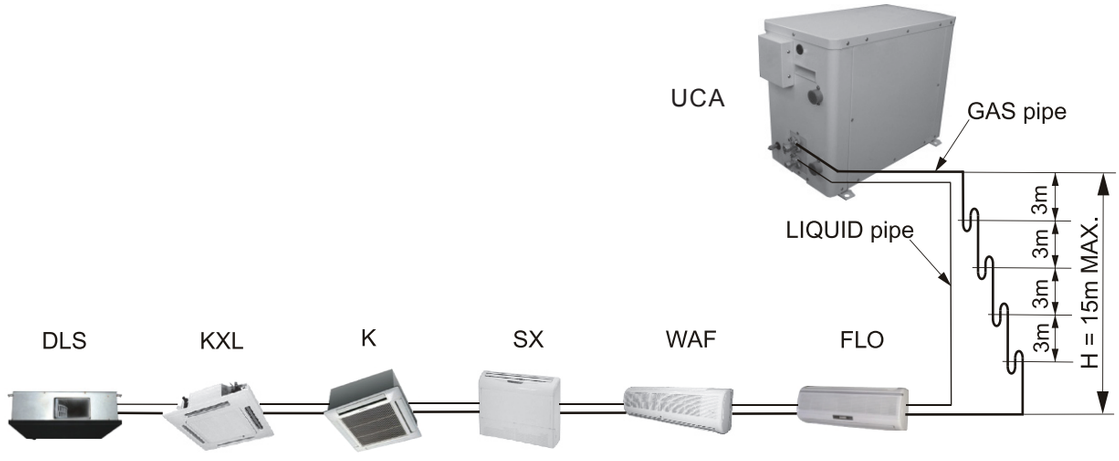


CONNECTIONS UNDER 8 METRES



CONNECTIONS OVER 8 METRES

In the case of the vertical inlet pipe length being over 8 m, it is IMPERATIVE to install a siphon every 3 metres when the Condenser Unit is installed above the Air Treatment Unit.



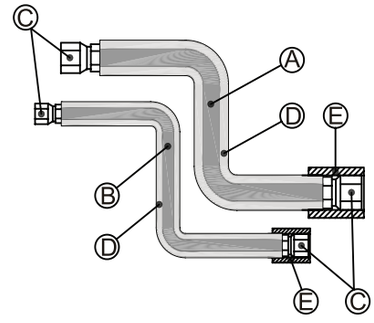
REFRIGERATION CONNECTIONS BETWEEN THE OUTDOOR UNIT AND THE INDOOR UNIT

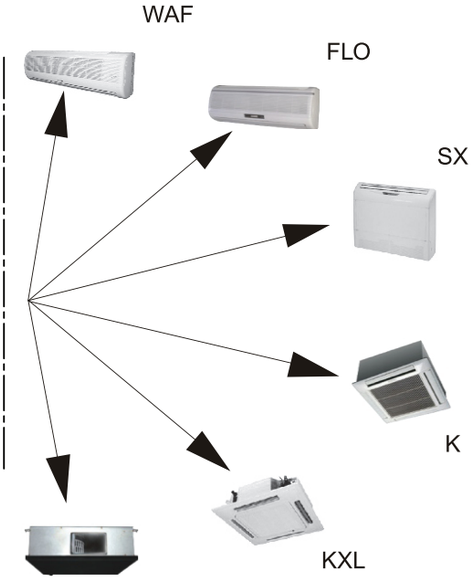
The indoor units have been designed for refrigeration pipe connections to the outdoor units using FLARE pipes (refrigeration quality copper pipe with FLARE nut end fittings, and insulation along the entire pipe length).

Preparing the pipes :

- Use refrigeration quality copper pipes of an appropriate diameter for each model
- The GAS pipe and the LIQUID pipe must be insulated with insulation material with a thickness of at least 6 mm.
- Place the FLARE nuts on the pipe ends before preparing them with a flaring tool.
- The separately insulated pipes, as well as their connectors, can then be attached to the condensate evacuation pipe and to the electrical cables with a collar clamp.

UCA



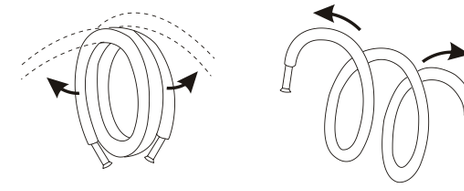


A GAS pipe
B LIQUID pipe
C Flare nut
D Pipes insulation(6 mm min.)
E Insulating sleeve

PIPES TO BE MADE ON SITE

This operation should be performed expertly by qualified professionals (refrigeration engineer) (brazing, vacuum, charge, etc ...).

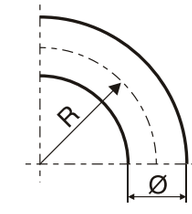
- FLARE connectors are available as accessories, in fixed lengths : L = 2.5 - 5 - 8 m.
- The pipes are supplied in rolls and fitted with FLARE nuts.
- Unroll the pipes carefully, in the opposite direction to the spirals, to avoid bending them.



REFRIGERATION PIPE BENDING

The bending radius of the pipes should be equal to or more than 3,5 times of outside diameter of the pipe.

Do not bend the pipes consecutively more than three times and do not make more than 12 bends over the complete length of the link.



VACUUM OF COOLING PIPES AND INDOOR UNIT

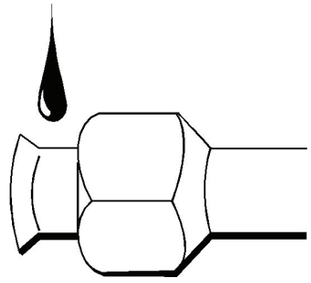
Only the outdoor unit is charged with refrigerant fluid. The indoor unit contains a small quantity of a neutral gas. This the reason it is imperative to vacuum the linking pipes and the indoor unit.

ASSEMBLY

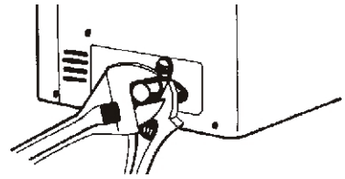
The outdoor unit is equipped with a valve allowing to vacuum the installation (large valve)

1 Connect the connecting pipes to the outdoor unit by FLARE NUTS and to the indoor unit by BRAZING

- To obtain the right tightening, cover the surface with cooling oil.



- The use of a counter wrench is required to tighten the valves.



- The values of the tightening torque are shown in the table below

PIPE Ø	TIGHTENING TORQUE
1/4""	15-20 Nm
3/8""	30-35 Nm
1/2""	50-54 Nm
5/8""	70-75 Nm
3/4""	90-95 Nm

2 Connect the vacuum pump with the flare coupling of the outdoor unit equipped with a process valve.

3 Start the vacuum pump and check that the needle of the indicator goes down to - 0,1 mPa (-78 cm Hg.The pump should run during at least 15 minutes.

4 Before disconnecting the vacuum pump, check that the vacuum indicator remains in the same position during five minutes.

5 Disconnect the vacuum pump.

6 Remove the cap of the "GAS" and "LIQUID" valves and open them with a hexagonal wrench to free the refrigerant fluid contained in the outdoor unit.

7 If the length of the refrigerant pipes of one line exceeds 7.5 m, add the extra charge indicated in the table of following page. Certain units require an additional charge as per table of COOLING SPECIFICATIONS.

8 Check that the linking pipes are sealed. Use an electronic leak detector or a soapy sponge.

English

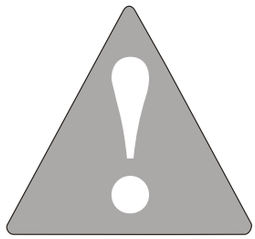
HYDRAULIC CONNECTIONS

WATER FLOW

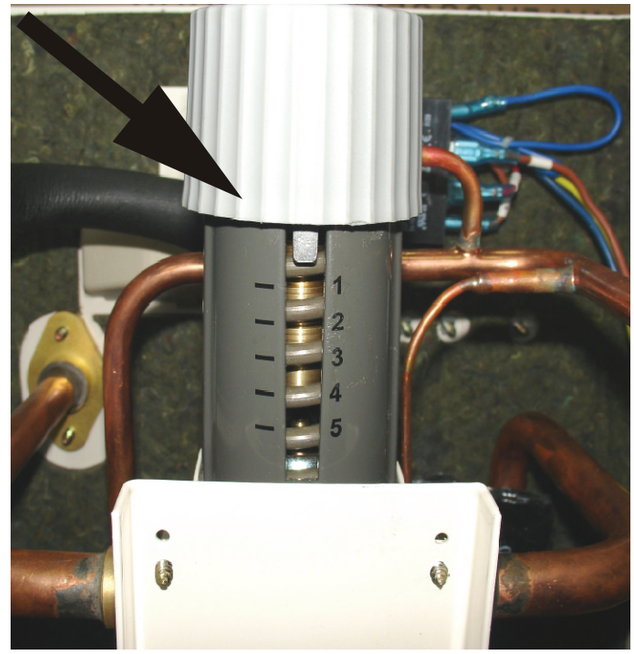
		UCA								
		7	9	12	15	18	24	30	36	45
LOST WATER +15°C	l/h	90	120	160	190	250	320	360	400	500
RECYCLED WATER 30/35°C	l/h	500	600	850	1000	1250	1550	1900	2300	2800

PRESSURE DROP ON WATER

		UCA								
		7	9	12	15	18	24	30	36	45
LOST WATER +15°C	Kpa	2	3	4	5	12	15	10	15	20
RECYCLED WATER 30/35°C	Kpa	25	30	40	50	90	130	70	100	140



In case of recycled water application, please take off water regulating valve.

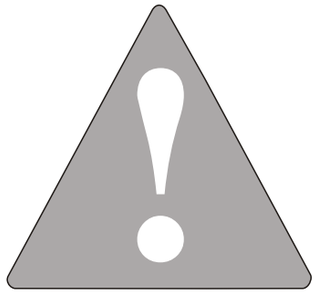


WIRING DIAGRAM AND LEGEND

SEE APPENDIX

ELECTRICAL CONNECTIONS

WARNING



Before carrying out any work on the equipment, make sure that the electrical power supply is disconnected and that there is no possibility of the unit being started inadvertently.

Non-compliance with the above instructions can lead to injury or death by electrocution.

English

The electrical installation must be performed by a fully qualified electrician, and in accordance with local electrical standards and the wiring diagram corresponding to the unit model.

Any modification performed without our prior authorisation may result in the unit's warranty being declared null and void.

The power supply cable section must be sufficient to provide the appropriate voltage to the unit's power supply terminals, both at start-up and under full load operating conditions.

The power supply cable shall be selected in accordance with the following criteria:

1. Power supply cable length.
2. Maximum unit starting current draw – the cables shall supply the appropriate voltage to the unit terminals for starting.
3. Power supply cables' installation mode.
4. Cables' capacity to transport the total system current draw.

Starting current and total current draw are indicated on the unit's wiring diagram.

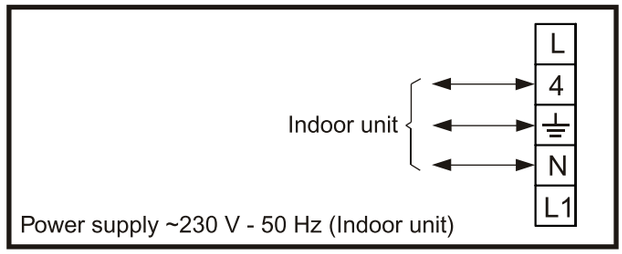
In accordance with standards NF C 73-600 and IEC 335, the appliances are designed to be permanently wired to a rigid electrical cable. Do not use connectors or flexible cable for the power input or the interconnections between the outdoor unit and the indoor units.

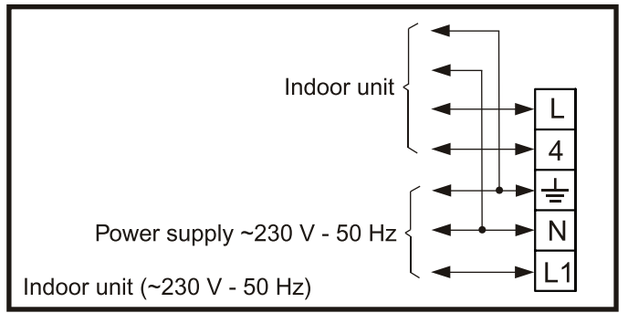
English

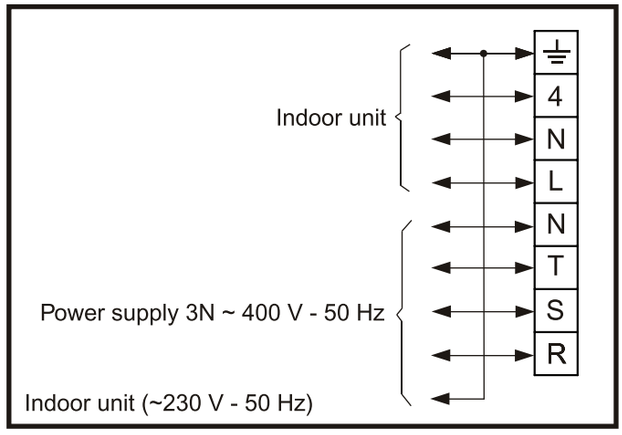
UCA 7 / 9 / 12 / 15 / 18
~230 V - 50 Hz

UCA 24 / 30
~230 V - 50 Hz

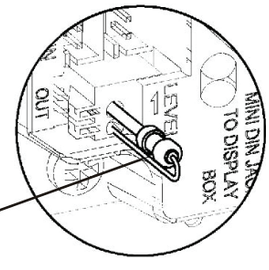
UCA 36 / 45
3N ~400 V - 50 Hz







The water-cooled condenser units (UCA) are COOLING ONLY units. Therefore, the sensor wire must be replaced by the 4.7 kΩ resistance on the indoor unit.



SINGLE-PHASE MODELS

SEE APPENDIX

THREE-PHASE MODELS

SEE APPENDIX

COMMISSIONING

PRE-START CHECK LIST

ELECTRICAL CHECK

1. Electrical installation has been carried out according to unit wiring diagram and the Supply Authority Regulations.
2. size fuses or circuit breaker has been installed at the main switchboard.

   The fuses must mandatorily be rated for the motor (G).
3. Supply voltages as specified on unit wiring diagram.
4. All cables are properly identified and tight connected at the unit.
5. the cables and wires are clear of or protected from pipework and sharp edges.

HYDRAULIC CHECKS

1. Check that the external water circuit components (pumps, user equipment, filters, expansion tank and reservoir if supplied) have been correctly installed in accordance with the manufacturer's recommendations and that the water inlet and outlet connections are correct.
2. Check that the hydraulic circuit is filled correctly and that the fluid flows freely without any signs of leaks or air bubbles. When ethylene glycol anti-freeze is used, check that the concentration level is correct.
3. Adjust the water flow in order to comply with the specifications.
4. Check that the water quality complies with the indicated standards.
5. Check the connections for leaks and provide heat proofing on the drain lines if there is a risk of freezing or condensation.

VISUAL CHECK

1. Clearances around unit including outdoor air entry and discharge openings and service accesses.
2. Unit mounted as specified.
3. For loose or missing bolts or screws.
4. Check the refrigerant lines for leaks using a suitable detector, especially the outdoor unit and indoor unit connecting valves.
5. Check all bulkhead crossings to the outdoors for leaks. Check that there is no direct contact between the connecting pipes and the wall crossed.
6. Check for smooth rotation of turbines and fan blades by hand.

FINAL CHECK

1. All panels and fan guards are in place and secured.
2. Unit clean and free of remainder installation material.

English

FINAL TASKS

Place the plugs back on the valves and check that they are properly tightened.

If needed, fix the cables and the pipes on the wall with clamping collars.

Operate the air conditioner in the presence of the user and explain all functions.

Take care

It is not the manufacturer's policy to make recommendations in terms of water treatment (please contact a specialised water treatment company).

However, given the critical nature of this subject, particular care should be taken to ensure that, if treatment is required, it works effectively.

Using untreated or unsuitable water leads to excessive clogging inside the coil tubes (earth and mud deposits, corrosion, etc.) with major consequences on the thermal efficiency of the unit and irreversible damage to the equipment.

The manufacturer and its representative decline all responsability in the event of untreated or incorrectly treated water being used.

IN CASE OF WARRANTY - MATERIAL RETURN PROCEDURE

Material must not be returned without permission of our After Sales Department.

To return the material, contact your nearest sales office and ask for a "return voucher". The return voucher shall be sent with the returned material and shall contain all necessary information concerning the problem encountered.

The return of the part is not an order for replacement. Therefore, a purchase order must be entered through your nearest distributor or regional sales office. The order should include part name, part number, model number and serial number of the unit involved.

Following our personal inspection of the returned part, and if it is determined that the failure is due to faulty material or workmanship, and in warranty, credit will be issued on customer's purchase order. All parts shall be returned to our factory, transportation charges prepaid.

ORDERING SERVICE AND SPARE PARTS ORDER

The part number, the order confirmation and the unit serial number indicated on the name plate must be provided whenever service works or spare parts are ordered.

For any spare part order, indicate the date of unit installation and date of failure. Use the part number provided by our service spare parts, if it not available, provide full description of the part required.

MAINTENANCE

The user is responsible for ensuring that it is in a proper working condition and that technical installation as well as the regular maintenance operations are performed by properly trained technicians and in accordance with the instructions contained in this manual.

REGULAR MAINTENANCE

These units have been designed for minimum maintenance. However, there are operational maintenance requirements that require regular attention to ensure optimum performance.

Maintenance must be performed by appropriately experienced personnel only

WARNING : Isolate unit from power supply before working on unit.

GENERAL INSPECTION

Carry out a visual inspection of the complete installation in service.

Check the general cleanness of the installation, and check if the condensate evacuations is not blocked, specialy on the indoor coil, before the cooling season.

Check the condition of the condesate tray by pulling it out of the casing

ELECTRICAL SECTION

Check that the main power supply cable is not damaged or altered in such a way as to affect the insulation

Check that the interconnecting cables between the two units are not damaged or altered, and that they are correctly connected.

The contact surfaces of relays and contactors should be inspected regularly by an electrician and replaced as judged necessary. On these occasions the control box should be blown out with compressed air to remove any accumulation of dust or other contaminants.

Check the earth grounding connection.

INDOOR UNIT

In order for the installation to operate correctly, it is essential to regularly clean the air filter located in the intake of the indoor unit.

When clogged, the filter reduces the air flow through the heat exchanger of the indoor unit, which in turn reduces the efficiency of the installation and inhibits the cooling of the fan motor

Check the cleanness of the indoor heat exchanger.

CAUTION

BEFORE CARRYING OUT ANY OPERATION ON THE EQUIPMENT, CHECK THAT THE ELECTRICAL POWER SUPPLY IS SWITCHED OFF AND THAT IT CANNOT BE SWITCHED ON INADVERTENTLY.

IT IS RECOMMENDED THAT THE DISCONNECT SWITCH BE PADLOCKED

English

English

SERVICING CHECKLIST

CASING

1. Clean the outer panels.
2. Remove the panels.
3. Check that the insulation is not damaged. Repair as required.

CONDENSATE DRAIN PAN

1. Check that the drainage orifices, conduits and syphon are not blocked.
2. Eliminate all accumulated dirt.
3. Check that no traces of rust are present.

REFRIGERATION CIRCUIT

1. Check the presence of gas leaks.
2. Check that the copper tube or the capillary tube do not rub against any metal or vibrate.
3. Check that the compressors do not generate any abnormal noises or vibrations.
4. Check the compressor discharge temperature.

INDOOR COILS

1. Clean the fin surfaces as required.
2. Observe the condition of the fans and motors.
3. Clean or replace the filters.
4. Check the condition of the fan and the fan motor.

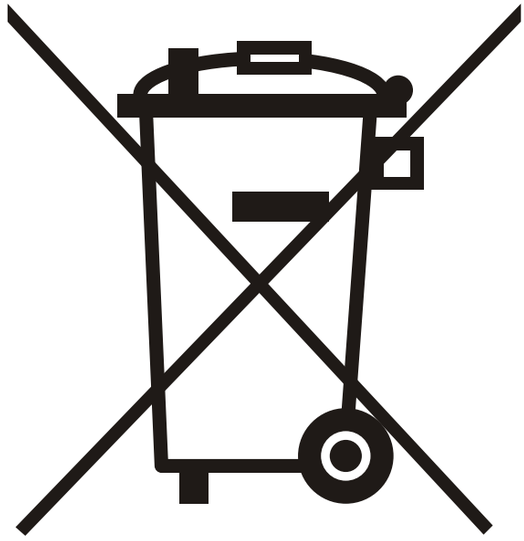
PROTECTION DEVICES

Check the proper operation of the high pressure protection devices.

ELECTRICAL EQUIPMENT

1. Check nominal current draw and the condition of the fuses.
2. Check the tightness of the screw terminals.
3. Perform a visual check of the condition of the contacts.
4. Check the general tightness of all cable connections.

Replace the panels and add any missing screws.



The meaning of the above logo representing a crossed-out wheeled bin is that this air conditioning unit must not be disposed of as unsorted municipal waste but should be collected separately as WEEE (Waste Electrical and Electronic Equipment).

The presence of hazardous substances in electrical and electronic equipment or an improper use of such equipments or of parts thereof as well as the hazards of not separating WEEE from unsorted domestic waste, may affect the environment and human health.

As an End User, you are required to place WEEE in a collection separate from that for unsorted domestic waste. Please contact a point of sale or installer to find out the collection system available at your local community. You may return your old air conditioning unit for free to the point of sale or the installer when purchasing a new one.

As an End User, it is your role to contribute to the reuse, recycling and other forms of recovery of such wastes so as to reduce the disposal of waste. This will help preserve your environment.

APPENDIX
ANNEXE
ANLAGE
ALLEGATO
ANEXO
ПРИЛОЖЕНИЕ

APPENDIX

ANNEXE

ANLAGE

ALLEGATO

ANEXO

ПРИЛОЖЕНИЕ

APPENDIX / ANNEXE / ANLAGE / ALLEGATO / ANEXO / ПРИЛОЖЕНИЕ

WIRING DIAGRAM

SCHEMAS ELECTRIQUES

STROMLAUFPLANS

SCHEMA ELETRICO

ESQUEMA ELECTRICO

СХЕМА ЭЛЕКТРИЧЕСКИХ СОЕДИНЕНИЙ

TAKE CARE!

These wiring diagrams are correct at the time of publication. Manufacturing changes can lead to modifications. Always refer to the diagram supplied with the product.

ATTENTION

Ces schémas sont corrects au moment de la publication. Les variantes en fabrication peuvent entraîner des modifications. Reportez-vous toujours au schéma livré avec le produit.

ACHTUNG!

Diese Stromlaufplans sind zum Zeitpunkt der Veröffentlichung gültig. In Herstellung befindliche Varianten können Änderungen mit sich bringen. In jedem Fall den mit dem Produkt gelieferten Stromlaufplan hinzuziehen.

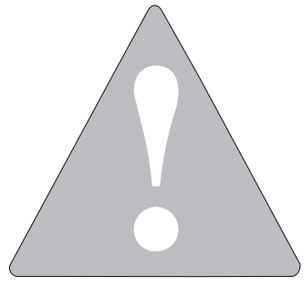
ATTENZIONE !

Questi schemi sono corretti al momento della pubblicazione. Le varianti apportate nel corso della fabbricazione possono comportare modifiche. Far sempre riferimento allo schema fornito con il prodotto.

ATENCIÓN !

Esto esquemas son correctos en el momento de la publicación. Pero las variantes en la fabricación pueden ser motivo de modificaciones. Remítase siempre al esquema entregado con el producto.

ВНИМАНИЕ!
Эти схемы электрических соединений верны на момент публикации. Изменения в производстве могли привести к их изменениям. Всегда используйте схемы, прилагающиеся к изделию.



POWER SUPPLY MUST BE SWITCHED OFF BEFORE STARTING TO WORK IN THE ELECTRIC CONTROL BOXES!

MISE HORS TENSION OBLIGATOIRE AVANT TOUTE INTERVENTION DANS LES BOITIERS ELECTRIQUES.

VOR JEDEM EINGRIFF AN DEN ANSCHLUßKÄSTEN UNBEDINGT DAS GERÄT ABSCHALTEN!

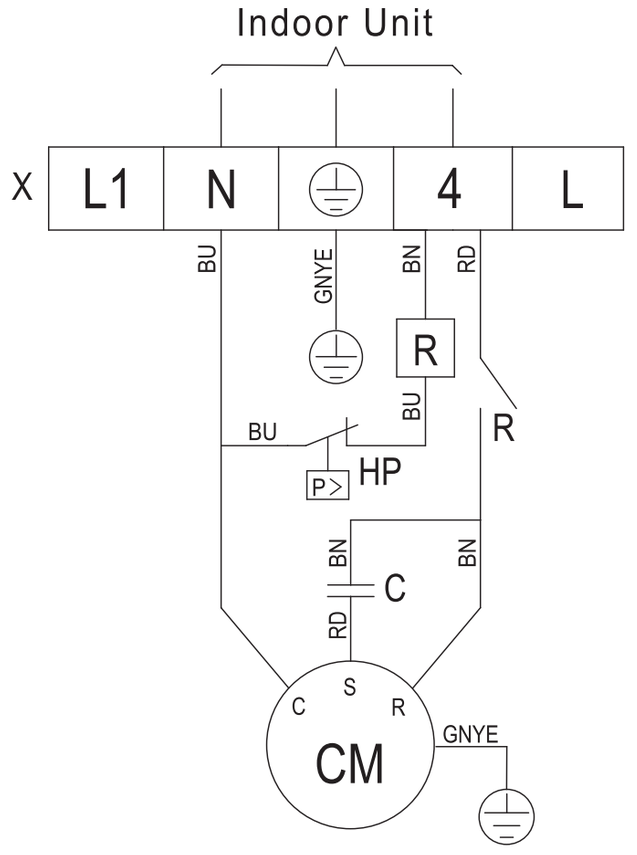
PRIMA DI OGNI INTERVENTO SULLE CASSETTE ELETTRICHE ESCLUDERE TASSATIVAMENTE L'ALIMENTAZIONE !

PUESTA FUERA DE TNESIÓN OBLIGATORIA ANTES DE CUALQUIER INTERVENCIÓN EN LAS CAJAS ELÉCTRICAS!

ПЕРЕД ТЕМ, КАК ПРИСТУПАТЬ К РАБОТАМ В ЭЛЕКТРИЕСКИХ БЛОКАХ УПРАВЛЕНИЯ, НУЖНО ИЗОЛИРОВАТЬ АГРЕГАТ ОТ ЭЛЕКТРИЧЕСКОЙ СЕТИ

UCA 7-9-12-15-18
~230V-50HZ

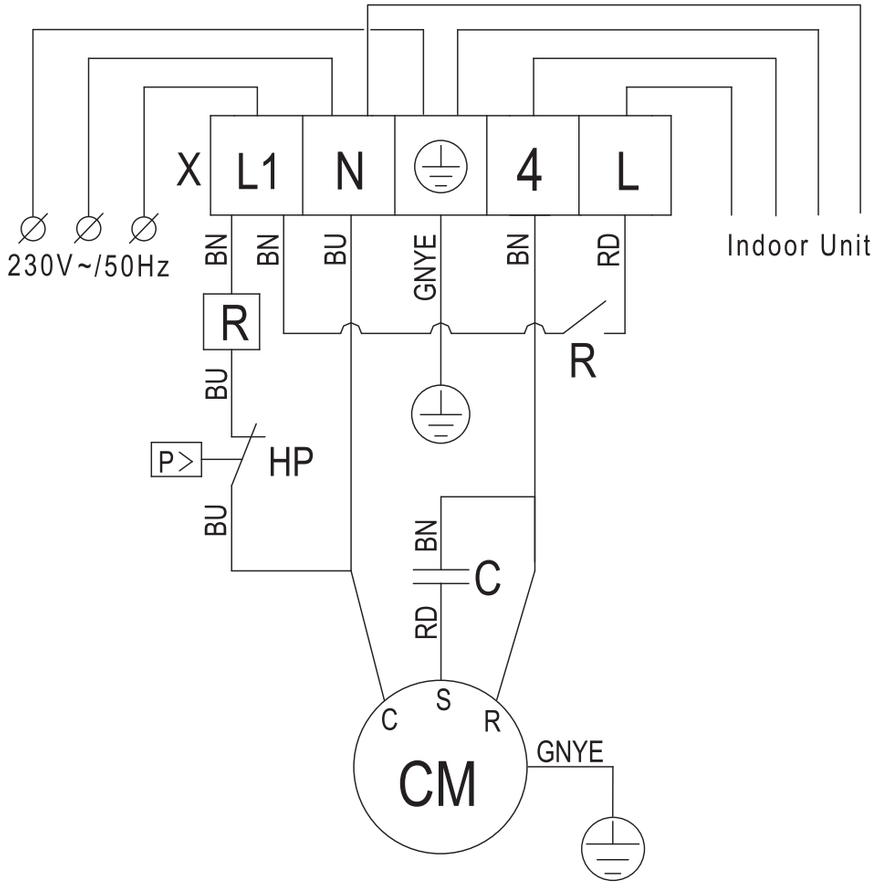
WIRING DIAGRAM
SCHEMAS ELECTRIQUES
STROMLAUFPLANS
SCHEMA ELETRICO
ESQUEMA ELECTRICO
СХЕМА ЭЛЕКТРИЧЕСКИХ СОЕДИНЕНИЙ



BU	BLUE	BLU	BLEU	BLAU	AZUL	СИНИЙ
BN	BROWN	MARRONE	BRUN	BRAUN	MARRON	КОРИЧНЕВЫЙ
RD	RED	ROSSO	ROUGE	ROT	ROJO	КРАСНЫЙ
GNYE	GREEN/YELLOW	GIALLO/VERDE	VERT/JAUNE	GRUN/GELB	VERDE/AMARILLO	ЗЕЛЕНЫЙ/ЖЕЛТЫЙ
CM	COMPRESSOR	VEROICHTER	COMPRESSORE	COMPRESOR	COMPRESSEUR	КОМПРЕССОР
HP	HIGH PRESSURE CONTROLLER	HOCHDRUCKPRESSOSTAT	PRESOS. DI ALTA PRESS.	PRESOS. ALTA PRES.	PRESSOS. HAUTE PRES.	РЕГУЛЯТОР ВЫСОКОГО ДАВЛЕНИЯ
R	RELAY	RELAIS	RELÉ	RELÉ	RELAIS	РЕЛЕ
C	CAPACITOR	KONDENSATOR	CONDENSATORE	CONDENSADOR	CONDENSATEUR	КОНДЕНСАТОР
X	TERMINAL STRIP	KLEMMLEISTE	MORSETTIERA	BORNERA	BORNIER LIAISON	КЛЕММНАЯ КОЛОДКА

UCA 24-30
~230V-50HZ

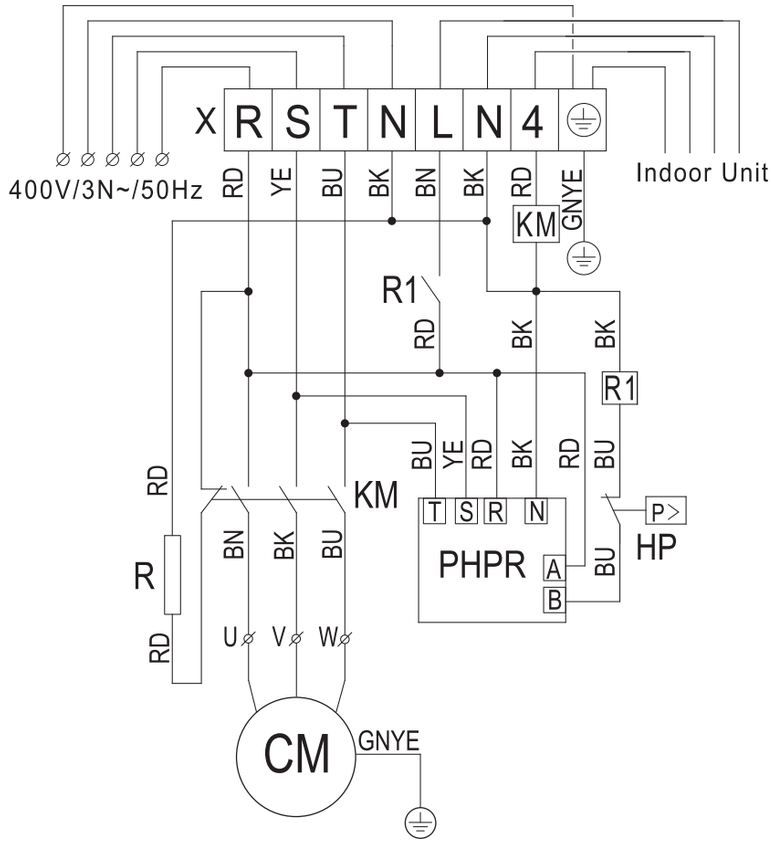
WIRING DIAGRAM
SCHEMAS ELECTRIQUES
STROMLAUFPLANS
SCHEMA ELETRICO
ESQUEMA ELECTRICO
СХЕМА ЭЛЕКТРИЧЕСКИХ СОЕДИНЕНИЙ



BU	BLUE	BLU	BLEU	BLAU	AZUL	СИНИЙ
BN	BROWN	MARRONE	BRUN	BRAUN	MARRON	КОРИЧНЕВЫЙ
RD	RED	ROSSO	ROUGE	ROT	ROJO	КРАСНЫЙ
GNYE	GREEN/YELLOW	GIALLO/VERDE	VERT/JAUNE	GRUN/GELB	VERDE/AMARILLO	ЗЕЛЕНЫЙ/ЖЕЛТЫЙ
CM	COMPRESSOR	VEROICHTER	COMPRESSORE	COMPRESOR	COMPRESSEUR	КОМПРЕССОР
HP	HIGH PRESSURE CONTROLLER	HOCHDRUCKPRESSOSTAT	PRESOS. DI ALTA PRESS.	PRESOS. ALTA PRES.	PRESSOS. HAUTE PRES.	РЕГУЛЯТОР ВЫСОКОГО ДАВЛЕНИЯ
R	RELAY	RELAIS	RELÉ	RELÉ	RELAIS	РЕЛЕ
C	CAPACITOR	KONDENSATOR	CONDENSATORE	CONDENSADOR	CONDENSATEUR	КОНДЕНСАТОР
X	TERMINAL STRIP	KLEMMLEISTE	MORSETTIERA	BORNERA	BORNIER LIAISON	КЛЕММНАЯ КОЛОДКА

UCA 36-45
400V/3N~/50HZ

WIRING DIAGRAM
SCHEMAS ELECTRIQUES
STROMLAUFPLANS
SCHEMA ELETRICO
ESQUEMA ELECTRICO
СХЕМА ЭЛЕКТРИЧЕСКИХ СОЕДИНЕНИЙ



YE	YELLOW	VERDE	JAUNE	JAUNE	AMARILLO	ЖЕЛТЫЙ
BK	BLACK	NERO	NOIR	SCHWARZ	NEGRO	ЧЕРНЫЙ
BU	BLUE	BLU	BLEU	BLAU	AZUL	СИНИЙ
BN	BROWN	MARRONE	BRUN	BRAUN	MARRON	КОРИЧНЕВЫЙ
RD	RED	ROSSO	ROUGE	ROT	ROJO	КРАСНЫЙ
GNYE	GREEN/YELLOW	GIALLO/VERDE	VERT/JAUNE	GRUN/GELB	VERDE/AMARILLO	ЗЕЛЕНЫЙ/ЖЕЛТЫЙ
CM	COMPRESSOR	VEROICHTER	COMPRESSORE	COMPRESOR	COMPRESSEUR	КОМПРЕССОР
HP	HIGH PRESSURE CONTROLLER	HOCHDRUCKPRESSOSTAT	PRESOS. DI ALTA PRESS.	PRESOS. ALTA PRES.	PRESSOS. HAUTE PRES.	РЕГУЛЯТОР ВЫСОКОГО ДАВЛЕНИЯ
R1	RELAY	RELAIS	RELÉ	RELÉ	RELAIS	РЕЛЕ
R	CRANKCASE HEATER	KURBELWANNENHEITZUNG	ELETTRORISCALDATTORE DEL CARTE	RESISTANCIA DE CARTER	RESISTANCE DE CARTER	НАГРЕВАТЕЛЬ КАРТЕРА
X	TERMINAL STRIP	KLEMMLEISTE	MORSETTIERA	BORNERA	BORNIER LIAISON	КЛЕММНАЯ КОЛОДКА
PHPR	PHASE PROTECTOR	PHASENSCHUTZ	PROTEZIONE DI FASE	PROTECTOR DE FASE	PROTECTEUR DE PHASE	ФАЗНЫЙ ПРЕДОХРАНИТЕЛЬ
KM	CONTACTOR	SCHUTZ	TELERUTTORE	CONTACTOR	CONTACTEUR	КОНТАКТОР

ELECTRICAL CONNECTIONS
RACCORDEMENTS ÉLECTRIQUES
ELEKTRISCHE ANSCHLÜSSE
CONEXIONES ELÉCTRICAS
COLLEGAMENTI ELETTRICI
ЭЛЕКТРИЧЕСКИЕ СОЕДИНЕНИЯ

The water-cooled condenser units (U C A) are COOLING ONLY units. Therefore, the sensor wire must be replaced by the 4.7 kΩ resistance on the indoor unit.

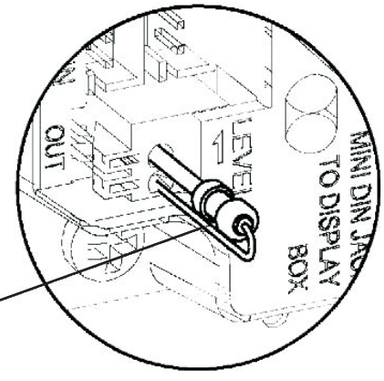
Le Groupe de Condensation à eau (U C A) sont des appareils FROID SEUL, il est donc indispensable de remplacer le fil de sonde par la résistance de 4,7KΩ sur l'unité intérieure.

Bei der wassergekühlten Verflüssigereinheit (U C A) handelt es sich um Standardgeräte (NUR KÜHLUNG); daher muss der Messfühlerdraht durch den Widerstand 4,7KΩ an der Inneneinheit ersetzt werden.

Il Gruppo di Condensazione ad acqua (U C A) è un apparecchio SOLO RAFFREDDAMENTO. Occorre pertanto sostituire il filo di sonda con la resistenza da 4,7KΩ montata sull'unità interna.

La Unidad Condensadora de agua (U C A) es un aparato SÓLO FRÍO. Por tanto, es indispensable cambiar el hilo de sonda por la resistencia de 4,7kΩ en la unidad interior.

Конденсатор с водяным охлаждением (U C A) является ТОЛЬКО ОХЛАЖДАЮЩИМ устройством. Поэтому провод датчика на внутреннем блоке нужно заменить сопротивлением 4,7 кОм



4,7 KΩ resistance

Résistance 4,7KΩ

Widerstand 4,7KΩ

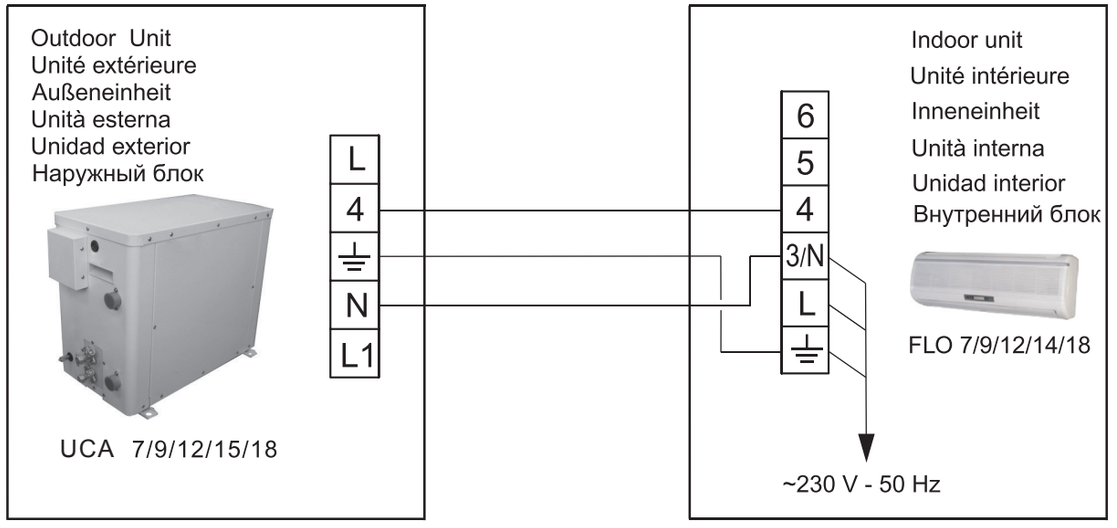
Résistanza 4,7KΩ

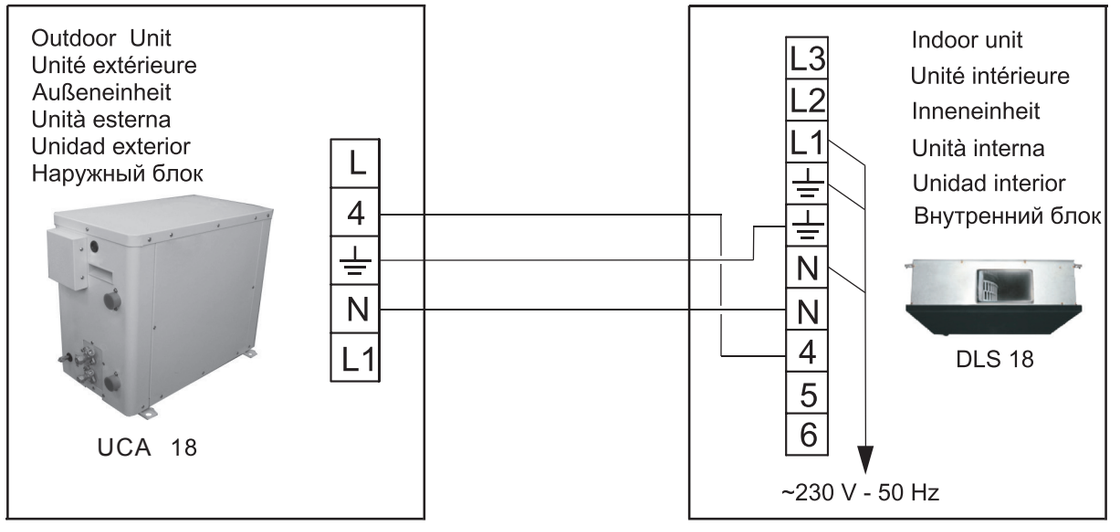
Résistancia 4,7KΩ

Сопротивление 4,7 KΩ

SINGLE-PHASE MODELS
MODÈLES MONOPHASÉS
WECHSELSTROMODELLE
MODELLI MONOFASE
MODELOS MONOFÁSICOS
ОДНОФАЗНЫЕ МОДЕЛИ

POWER SUPPLY BY THE INDOOR UNIT
ALIMENTATION ELECTRIQUE PAR L'UNITE INTERIEURE
VERSORGUNG MIT STROM DURCH DIE INNERE EINHEIT
GRUPPO DI ALIMENTAZIONE DALL'UNITÀ DELL'INTERNO
FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE INTERIOR
ПИТАНИЕ ЧЕРЕЗ ВНУТРЕННИЙ БЛОК





SINGLE-PHASE MODELS
MODÈLES MONOPHASÉS
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ОДНОФАЗНЫЕ МОДЕЛИ

POWER SUPPLY BY THE INDOOR UNIT
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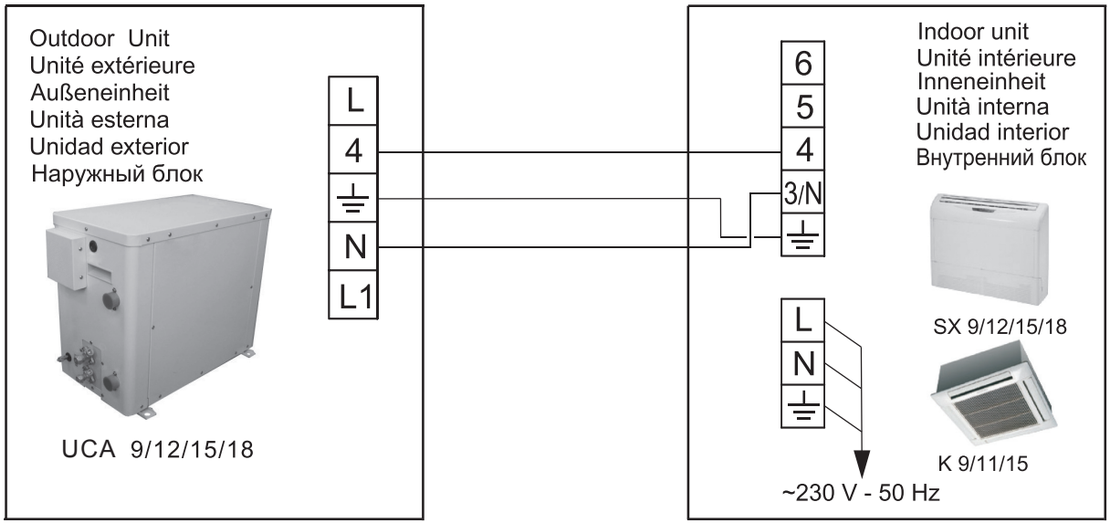
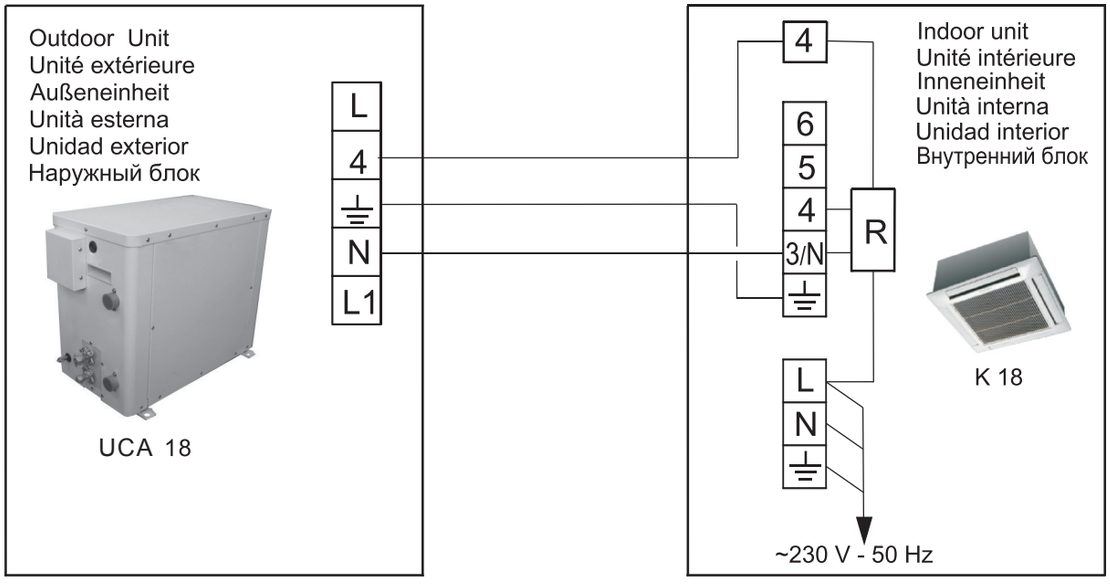
FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE INTERIOR
ПИТАНИЕ ЧЕРЕЗ ВНУТРЕННИЙ БЛОК





SINGLE-PHASE MODELS
MODÈLES MONOPHASÉS
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MODELLI MONOFASE
MODELOS MONOFÁSICOS
ОДНОФАЗНЫЕ МОДЕЛИ

POWER SUPPLY BY THE INDOOR UNIT
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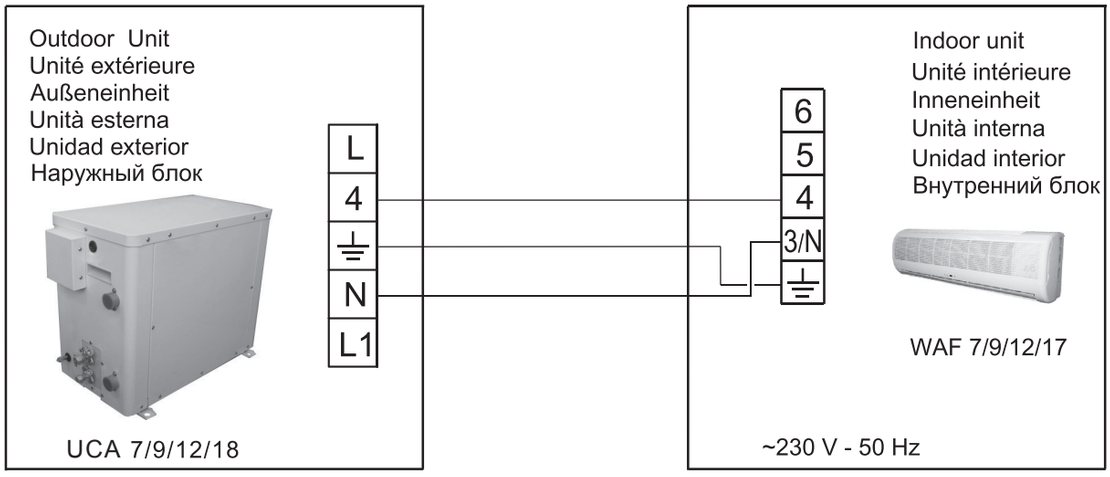
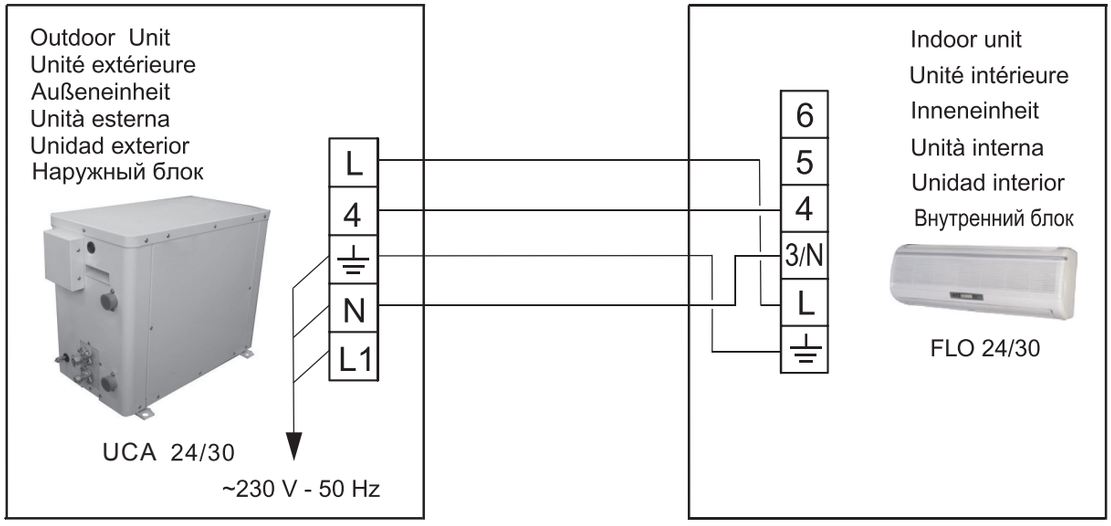
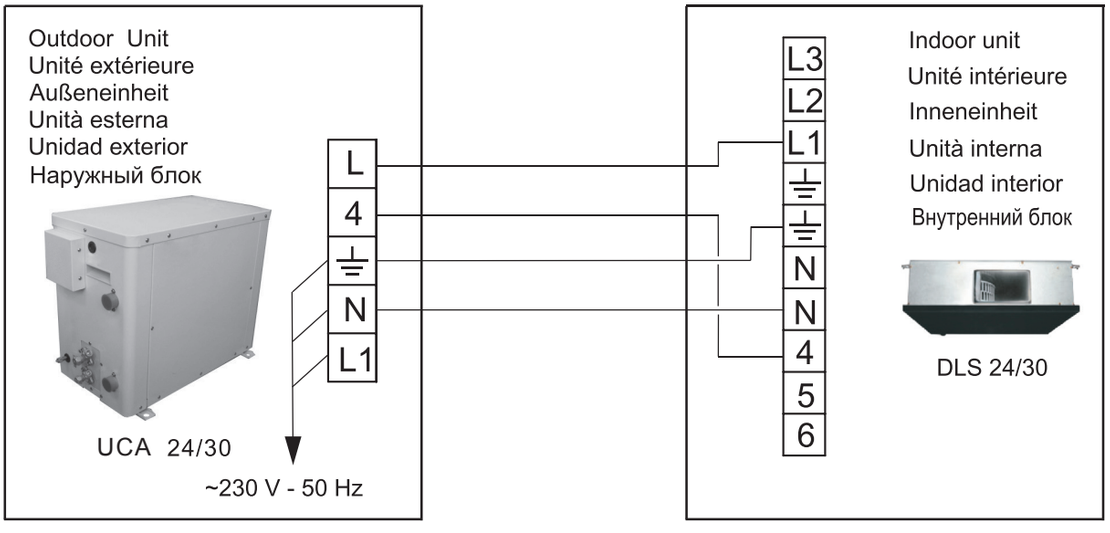
FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE INTERIOR
ПИТАНИЕ ЧЕРЕЗ ВНУТРЕННИЙ БЛОК



SINGLE-PHASE MODELS
MODÈLES MONOPHASÉS
WECHSELSTROMODELLE
MODELLI MONOFASE
MODELOS MONOFÁSICOS
ОДНОФАЗНЫЕ МОДЕЛИ

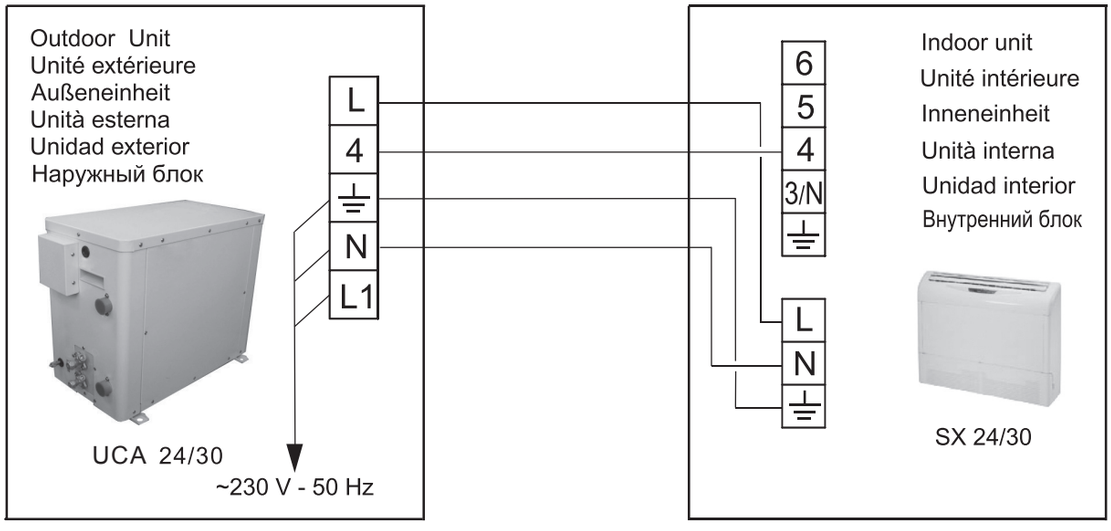
POWER SUPPLY BY THE OUTDOOR UNIT
ALIMENTATION ELECTRIQUE PAR L'UNITE EXTÉRIEURE
VERSORGUNG MIT STROM DURCH DIE AUSSENEINHEIT
GRUPPO DI ALIMENTAZIONE DALL'UNITÀ DELL'ESTERNA
FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE EXTERIOR
ПИТАНИЕ ЧЕРЕЗ НАРУЖНЫЙ БЛОК

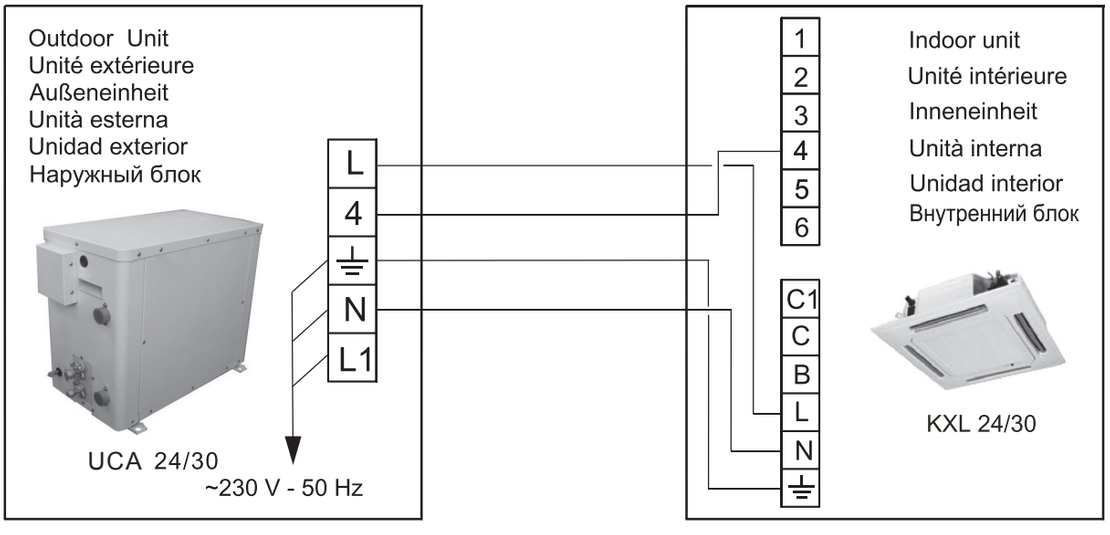




SINGLE-PHASE MODELS
MODÈLES MONOPHASÉS
WECHSELSTROMODELLE
MODELLI MONOFASE
MODELOS MONOFÁSICOS
ОДНОФАЗНЫЕ МОДЕЛИ

POWER SUPPLY BY THE OUTDOOR UNIT
ALIMENTATION ELECTRIQUE PAR L'UNITE EXTÉRIEURE
VERSORGUNG MIT STROM DURCH DIE AUSSENEINHEIT
GRUPPO DI ALIMENTAZIONE DALL'UNITÀ DELL'ESTERNA
FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE EXTERIOR
ПИТАНИЕ ЧЕРЕЗ НАРУЖНЫЙ БЛОК





THREE-PHASE MODELS

MODÈLES TRIPHASÉS

DREHSTROMMODELLE

MODELLI TRIFASE

MODELOS TRIFÁSICOS

ТРЕХФАЗНЫЕ МОДЕЛИ

POWER SUPPLY BY THE OUTDOOR UNIT

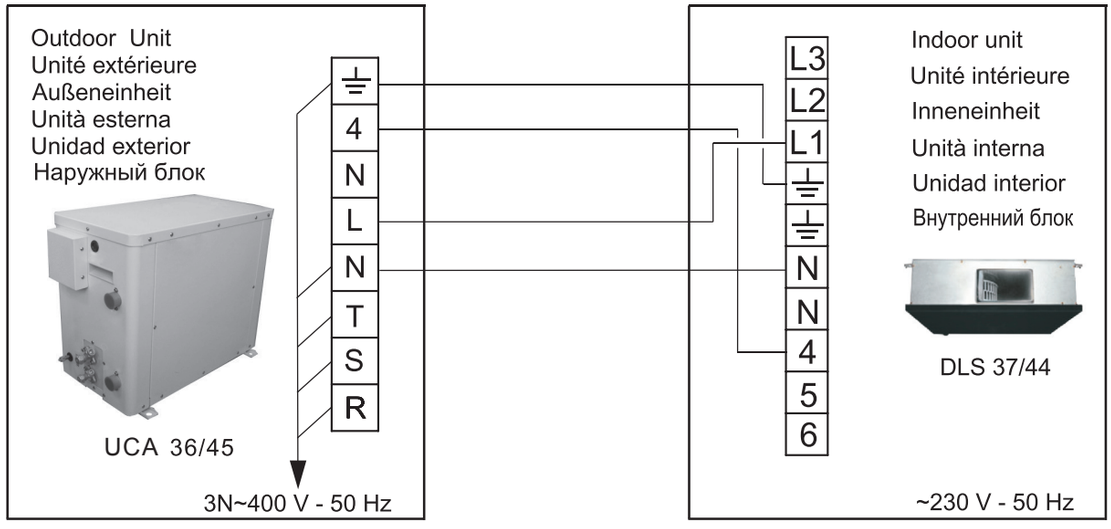
ALIMENTATION ELECTRIQUE PAR L'UNITE EXTÉRIEURE

VERSORGUNG MIT STROM DURCH DIE AUSSENEINHEIT

GRUPPO DI ALIMENTAZIONE DALL'UNITÀ DELL'ESTERNA

FUENTE DE ALIMENTACIÓN POR LA UNIDAD DE EXTERIOR

ПИТАНИЕ ЧЕРЕЗ НАРУЖНЫЙ БЛОК



Part No.C27013900