TECHNICAL MANUAL

2020

Haier
training center

The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

The Inverter Air Conditioner Guarantee expires if a Class A differential magnetothermal circuit breaker is not installed.

Index

Reference conditions: cooling
Ambient temperature: 27°C DB
19.5°C WB
Outdoor temperature: 35°C DB

Reference conditions: heating
Ambient temperature: 20°C DB
Outdoor temperature: 7°C DB

Seasonal efficiency according to EN14825 for models with power levels below 12 kW

Analytical Index

Analytical Index

Analytical Index

- Try to obtain as much information as possible from the customer, including: indoor/outdoor unit model and possible alarm reports.
- You can download technical reference material (diagnostics, electrical schemes, spare parts lists, etc.) on our website **www.Haierhvac.eu.**
- Retrieve the serial number from the unit you will be operating on.
- Try to understand if the LEDs on the indoor unit flashes or lights up in a particular sequence, or if the alarm codes appear if the unit is equipped with a display.
- In units controlled by a wired remote controller, the alarms do not go out spontaneously but must be recalled according to the procedure described in your user manual.
  (For example: To recall alarms with the YR-E17 wired touch-screen remote controller, press the TIME key for 10 seconds)

Check temperature sensor alarms

- Verify with a tester that the sensor is not interrupted or short-circuited. If so, replace it.
- Verify that the measured ohmic value is consistent with the temperature that the sensor measures.
- Once you have identified the type of sensor and measured its ohmic value, use the table on page 208 to identify the type and characteristics of the sensor.
- When replacing a sensor, always verify (measuring it with the tester) that it is the correct type.

Check communication alarm between indoor and outdoor units (e.g. E7..)

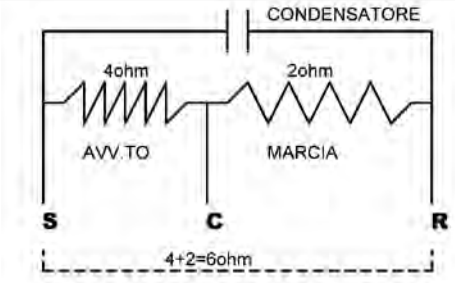
- Try disconnecting the voltage for a couple of minutes, then try restarting the air conditioner. In some cases it may be a transient alarm caused by external disturbances.
- For testing only, reverse wire "1" with wire "2" between the indoor and outdoor units in the terminal block. Due to the different product versions, it is possible that the phase and neutral are reversed between the 2 units.
- Verify alarm signals on both indoor and outdoor units and check if there is a reference to a specific fault.
- Verify if the problem is caused by the indoor unit(s), outdoor units, or the wiring as indicated below:
- Verify that in ventilation mode the indoor unit turns on and responds to all settings given by your controller. This will verify with a good probability that it is working.
- Verify the wiring between the units, (continuity and polarity, shielding when required). If in doubt try using a "jumper" cable.
- Before the alarm is signalled in the external unit with a 4-wire terminal block (L,N,COM,TERRA), verify that there is an alternating (also variable) voltage between the neutral and communication terminal other than 0 V. If this is not the case, try replacing the indoor unit card.
- In the inverter outdoor units, measure the continuous voltage at the heads of the capacitors connected to the power module between P(-), N(-). It must correspond to a voltage of about 310 Vdc. If not, check with the tester that the inductance gives continuity, otherwise it is possible to temporarily bypass it by shorting it. Verify that the power module is powered by 230 Vac in the respective terminals, and that the main board is powered.
- If the communication alarm appears on the indoor unit but there is no alarms on the outdoor unit, proceed to verify:
  1. continuous voltage 310 Vdc compressor
  2. continuous voltage 310 Vdc fan motor
  3. impedances on DC fan motor wires

  If there is evidence of a faulty fan and main board without an alarm, replace them both.

Electrical checks on the compressor

- Inverter / three-phase compressor: Measure the impedance of the phases by verifying that there are exactly equal values between the respective U,V,W or R,S,T terminals. Usually the value is about a few ohm. Disconnect all cables from the compressor before measuring.
- ON-OFF single-phase compressor: Measure the impedance of the run winding (C- R) and start winding (C-S) between the respective C,S,R terminals.

The sum of both windings must be equal to the impedance between R and S.



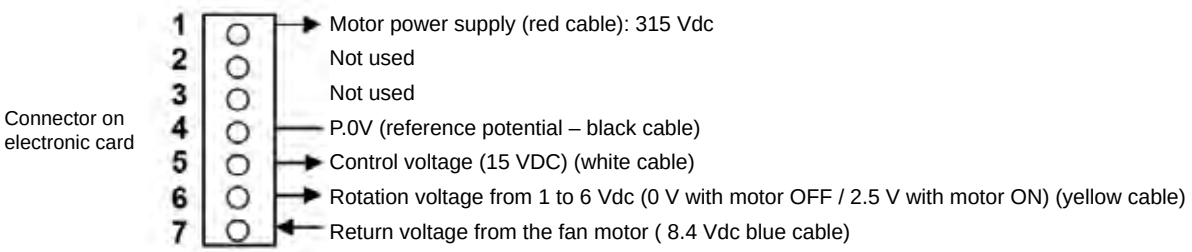
C = Common
R = Run winding
S= Start winding

- Measuring the absorption directly in the phase of the external terminal block, can make us understand if the consumption of the compressor falls into the rating plate data or not. In the On-Off compressors the start capacitor can be the cause of excessive absorption.
  In inverter compressors, measuring the current on one of the three phases with the current clamp in c.a. can verify if there are abnormal absorptions. In fact, in the start phase, it has to rise slowly from the minimum consumption.
- Measure the impedance of each winding towards the ground verifying that it is not less than 20 Mohm. This would indicate that there is a possible leakage that could cause the circuit breaker to intervene.
- The above tests can only give us an initial idea of the state of the compressor, but they are not enough to completely exclude a possible problem. For example, they do not detect mechanical blockages.

Fan Motor Verification (DC)

Against E14 or F8 alarm, make some checks according to the following indications:

1. Check the connector connection.
2. Check that the motor output voltage is 315 Vdc (pin 1-4)
3. Check that the motor control voltage is 15 Vdc (pin 4-5).
4. Check the rotation command output voltage (pin 4-6).
5. Check rotation input pulses (pin 4-7).



Resistive values of some fan motors

INDOOR UNIT MOTORS		
Motor Code 0010403317G		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	40kΩ	<100Ω
YELLOW / BLACK	226kΩ	<60kΩ
BLUE / BLACK	5.35MΩ	<100Ω
RED / BLACK	--	<1MΩ

INDOOR UNIT MOTORS		
Motor Code 001040410B		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	116kΩ	<100Ω
YELLOW / BLACK	198kΩ	<60kΩ
BLUE / BLACK	5.6MΩ	<1MΩ
RED / BLACK	--	<1MΩ

INDOOR UNIT MOTORS		
Motor Code 0150401250A		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	53kΩ	<100Ω
YELLOW / BLACK	170kΩ	<60kΩ
BLUE / BLACK	4.6MΩ	<1MΩ
RED / BLACK	1.3MΩ	<1MΩ

INDOOR UNIT MOTORS		
Motor Code 0150401253A		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	55kΩ	<100Ω
YELLOW / BLACK	171kΩ	<60kΩ
BLUE / BLACK	4.8MΩ	<1MΩ
RED / BLACK	1.3MΩ	<1MΩ

INDOOR UNIT MOTORS		
Motor Code 0150400714		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	1MΩ	<100Ω
YELLOW / BLACK	208kΩ	<60kΩ
BLUE / BLACK	5.2MΩ	<1MΩ
RED / BLACK	3.1MΩ	<1MΩ

INDOOR UNIT MOTORS		
Motor Code 0150401754A		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	2.2MΩ	<100Ω
YELLOW / BLACK	216kΩ	<60kΩ
BLUE / BLACK	--	<1MΩ
RED / BLACK	3.3MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010403322A		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	49kΩ	<100Ω
YELLOW / BLACK	154kΩ	<60kΩ
BLUE / BLACK	--	<1MΩ
RED / BLACK	3.7MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010401254B		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	49kΩ	<100Ω
YELLOW / BLACK	154kΩ	<60kΩ
BLUE / BLACK	--	<1MΩ
RED / BLACK	3.7MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010401254		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	28kΩ	<100Ω
YELLOW / BLACK	247kΩ	<60kΩ
BLUE / BLACK	4.6MΩ	<1MΩ
RED / BLACK	4.7MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010401087		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	53kΩ	<100Ω
YELLOW / BLACK	104kΩ	<60kΩ
BLUE / BLACK	63kΩ	<100Ω
RED / BLACK	1.3MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010400771		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	53kΩ	<100Ω
YELLOW / BLACK	104kΩ	<60kΩ
BLUE / BLACK	63kΩ	<100Ω
RED / BLACK	4.7MΩ	<1MΩ

OUTDOOR UNIT MOTORS		
Motor Code 0010401832		
OHM MEASUREMENTS	**TYPICAL VALUE**	**FAULT VALUE**
WHITE / BLACK	52kΩ	<100Ω
YELLOW / BLACK	147kΩ	<60kΩ
BLUE / BLACK	--	<100Ω
RED / BLACK	4.7MΩ	<1MΩ

Function test mode:

Forced cold:

using the "test" button located in the split units (usually located near the terminal) you can "force" the unit in cooling mode for 30min, thus excluding the reading of the sensors.

Do the following:

- With the machine off, press the "test" button until the buzzer emits 2 consecutive "BEEPs".
- Release the button.

This will start the unit in forced cooling mode. To exit this mode simply turn off the unit from the remote control or press the appropriate "test" button 1 time.

Verification of operation

In order to determine the proper operation of an air conditioner in addition to the pressure of the refrigerant, the electrical absorption of the outdoor unit and the yield of the indoor unit ('t air intake - man.') must be considered (in an average cooling between 10 - 15°C of Δt, in heat pump on average between 20 - 30°C of Δt). There is also no precise operating pressure. It varies depending on the temperatures we have inside, outside and the type of refrigerant used.

- When operating in cooling mode under normal conditions of use, the difference between the temperature read with the thermometer in the OU gas pipe* and the temperature read by the gauge (gas side) should be between 5-8°C (overheating reading). *** To obtain a more precise measurement, measure directly in the compressor intake pipe.**
- When operating in heating mode under normal conditions of use, the difference between the temperature read by gauge (gas side) and the temperature read with the thermometer in the OU liquid pipe* should be between 3-5°C (supercooling reading). *** To obtain a more precise measurement, measure directly before the laminating device.**
- If the dynamic pressure is similar to static pressure it can indicate a leakage problem of the 4-way valve or a problem with the compressor. Usually the absorption of the compressor shows very low values.

- A pressure different than normal functioning can be a symptom of bad thermal exchange, crushed piping or incorrect refrigerant charge.
- Always ensure that the lengths and elevations are within the limits provided by the manufacturer.
- In the case of pipes exceeding the standard, make an additional charge of refrigerant according to the quantities listed in the catalog/installation manual.

The above measures may vary depending on the conditions of use, so these values remain purely indicative and should be interpreted taking into account the other tests mentioned in this manual depending on the models in question.

Some of the phenomena below are usually accompanied by poor yield of the device.

Frequent issues during cooling operation:

The liquid pipe of the outdoor unit tends to frost

The main causes are as follows:

- Lack of refrigerant
- Dirty filters
- Faulty indoor unit fan
- Poor circulation of refrigerant (e.g. crushed pipes, capillary obstruction)

Dynamic pressure is relatively low compared to normal operation

- Refrigerant may be missing. Check for leaks and restore the system with the correct charge.
- The indoor unit may not have a proper thermal exchange, (filters, fan, exchanger, obstacles)
- Poor circulation of refrigerant (e.g. crushed pipes, capillary obstruction).

Dynamic pressure is relatively high compared to normal operation

- There may be too much gas due to an incorrect refill.
- The outdoor unit may not have a proper thermal exchange.

The indoor unit gives off bad smells

- It is important to check that the drain has the right slope, and that it has not been directly connected to the sewerage system.
- Check/clean the exchanger and filters of the indoor unit.

Frequent issues during heat pump operation:

The outdoor unit is covered with ice

- Verify that the air conditioner has been sized correctly.
- Verify that the indoor unit does not work at room temperature below 16°C and there are no obstacles that can affect the thermal transfer of exchangers.
- Turning off the air conditioner resets the defrosting cycles, therefore a sudden on and off operation can facilitate the formation of ice in the outdoor unit.
- Verify that the refrigerant charge matches the indicated rating plate data considering any additions for lengths longer than the standard.

Dynamic pressure is relatively low compared to normal operation

- Refrigerant may be low. Check for leaks and restore the system with the correct charge.
- The outdoor unit may not have a proper thermal exchange.
- Operating temperatures (indoor/outdoor) are too low.

Dynamic pressure is relatively high compared to normal operation

- The indoor unit may not have a proper thermal exchange, (filters, fan, exchanger, obstacles).
- There may be too much gas due to an incorrect refill.
- Obstruction to the capillary or crushed pipes
- Operating temperatures (indoor/outdoor) are too high.

NOTE:

Setting Celsius/Fahrenheit degrees

In some indoor wall units, the temperature may appear on Fahrenheit instead of Celsius on the display.
Most of the time it happens due to an incorrect setting by the user but it may also occur due to sudden changes in the voltage or Eeprom memory loss.

However, the restore operation is as follows:

- Make sure you have the YR-HD01 remote control or similar remote controls that still have the "extra function" button or the dedicated F/C button.
- Turn on the split in cooling/heat pump mode
- Press the "EXTRA FUNCTION" button until the temperature in fahrenheit degrees flashes in the remote control display.
- Press the "CONFIRM" button
- Press the "EXTRA FUNCTION" button again, and the temperature in degrees centigrade will flash in the remote control display.
- Press the "CONFIRM" button
- Now both on the remote control and split display the temperature will need to be correctly set in centigrade degrees.

Selecting the room temperature/set-point on the display:

To switch the display between real temperature and environment set-point, press the LIGHT key on the remote control 10 times;
The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

Temperature compensation: +/- 4°C on commercial units

If the temperature set in the wired controller does not respect the previously set temperature, try the following procedure. To do this you must:

- Make sure that no offsets have already been set up using the wired controller
- A receiver card (e.g. receiver in the cassette unit panel, or RE02 receiver interface)
- A remote control with the "SLEEP" button (for example, YR-HBS01)

THEN FOLLOW THE NOTES BELOW:

1. Turn on the unit using the remote control
2. From remote control, select the HEAT PUMP mode at 24°C
3. Press the "SLEEP" button 7 times in 5 seconds. The internal unit must issue 2 confirmation "BEEP" sounds. If you do not hear any sound repeat step 3
4. Turn off the unit via the remote control and you will hear 4 "BEEP" sounds for confirmation
5. Remove voltage and then restart the system

N.B.: If you want to set a different compensation temperature, set a higher or lower temperature in step 2 instead of setting 24 °C. Considering the starting 24 °C as point 0, each additional degree will give a positive compensation (e.g. 25 °C = +1 °C, 26 °C = +2 °C) instead, every less degree will give a negative compensation (e.g. 23 °C = -1 °C, 22 °C = -2 °C)

Selecting the automatic restart at power failure:

Press 10 times the "SLEEP" button on the remote control; the indoor unit will respond with 2 BEEPs for disabled function (not restarts) and with 4 BEEPs for enabled function (restarts after power failure with last settings).

Activating/deactivating power-saving feature of the fan motor in cooling mode:

Directing the remote control to the indoor unit:

1. Press the "AUTO" button
2. Press the "HEALTH" button 6 times

The indoor unit will respond with 2 "BEEP" sounds and the echo function will be disabled.
The fan will always be in operation, even if the set ambient temperature is reached.
By repeating steps 1 and 2, the indoor unit will respond with 4 "BEEP" sounds and the echo function will be reactivated.
The fan will stop when the set ambient temperature is reached.

R32 SUPERMATCH Monosplit Range

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OUTDOOR UNIT R32 MONOSPLIT			1U25S2SM1FA	1U35S2SM1FA	1U42S2SM1FA	1U50S2SJ2FA	1U71S2SG1FA
INDOOR UNIT R32		kW	2.5 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
 FLEXIS BLACK	AS25S2SF1FA-MB	2.5	●				
	AS35S2SF1FA-MB	3.5		●			
	AS42S2SF1FA-MB	4.2			●		
	AS50S2SF1FA-MB	5.0				●	
	AS71S2SF1FA-MB	7.1					●
 FLEXIS WHITE	AS25S2SF1FA-MW	2.5	●				
	AS35S2SF1FA-MW	3.5		●			
	AS42S2SF1FA-MW	4.2			●		
	AS50S2SF1FA-MW	5.0				●	
	AS71S2SF1FA-MW	7.1					●
FLAIR	AS25S2SF2FA-1	2.5	●				
	AS35S2SF2FA-1	3.5		●			
	AS42S2SF2FA-1	4.2			●		
	AS50S2SF2FA-1	5.0				●	
	AS71S2SF2FA-1	7.1					●
 CONSOLE	AF25S2SD1FA	2.5	●				
	AF35S2SD1FA	3.5		●			
	NEW AF42S2SD1FA	4.2			●		
		5.0					
		7.1					
 CASSETTE 700 (PHASED OUT)		2.5					
	AB35S2SC1FA	3.5		●			
		4.2					
	AB50S2SC1FA	5.0				●	
		7.1					
NEW  CASSETTE 620		2.5					
	AB35S2SC2FA	3.5		●			
		4.2					
	AB50S2SC2FA	5.0				●	
		7.1					
 ROUND FLOW CASSETTE		2.5					
		3.5					
		4.2					
		5.0					
	AB71S2SG1FA	7.1					●
 CEILING / FLOOR CONVERTIBLE		2.5					
	AC35S2SG1FA	3.5		●			
		4.2					
	AC50S2SG1FA	5.0				●	
	AC71S2SG1FA	7.1					●
 SLIM DUCT LOW PRESSURE		2.5					
	AD35S2SS1FA	3.5		●			
		4.2					
	AD50S2SS1FA	5.0				●	
	AD71S2SS1FA	7.1					●
 DUCTED MEDIUM PRESSURE		2.5					
	AD35S2SM3FA	3.5		●			
		4.2					
	AD50S2SM3FA	5.0				●	
	AD71S2SM3FA	7.1					●

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

R32 SUPERMATCH Multisplit Range

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OUTDOOR UNIT R32 MULTISPLIT			1:2		1:3		1:4		1:5	
			2U40S2SM1FA	2U50S2SM1FA	3U55S2SR2FA	3U70S2SR2FA	4U75S2SR2FA	4U85S2SR2FA	5U90S2SS2FA	5U105S2SS3FA
INDOOR UNIT R32		kW	4.0 kW	5.0 kW	5.5 kW	7.0 kW	7.5 kW	8.5 kW	9.0 kW	10.5 kW
	AS20S2SD1FA	2.0	●	●	●	●	●	●	●	●
	AS25S2SD1FA	2.5	●	●	●	●	●	●	●	●
	AS35S2SD1FA	3.5	●	●	●	●	●	●	●	●
	AS42S2SD1FA	4.2		●	●	●	●	●	●	●
DAWN	AS50S2SD1FA	5.0			●	●	●	●	●	●
	AS20S2SF1FA-MB	2.0	●	●	●	●	●	●	●	●
	AS25S2SF1FA-MB	2.5	●	●	●	●	●	●	●	●
	AS35S2SF1FA-MB	3.5	●	●	●	●	●	●	●	●
	NEW AS42S2SF1FA-MB	4.2		●	●	●	●	●	●	●
	AS50S2SF1FA-MB	5.0			●	●	●	●	●	●
FLEXIS BLACK	AS71S2SF1FA-MB	7.1				●	●	●	●	●
	AS20S2SF1FA-MW	2.0	●	●	●	●	●	●	●	●
	AS25S2SF1FA-MW	2.5	●	●	●	●	●	●	●	●
	AS35S2SF1FA-MW	3.5	●	●	●	●	●	●	●	●
	NEW AS42S2SF1FA-MW	4.2		●	●	●	●	●	●	●
	AS50S2SF1FA-MW	5.0			●	●	●	●	●	●
FLEXIS WHITE	AS71S2SF1FA-MW	7.1				●	●	●	●	●
	AS20S2SF2FA-1	2.0	●	●	●	●	●	●	●	●
	AS25S2SF2FA-1	2.5	●	●	●	●	●	●	●	●
	AS35S2SF2FA-1	3.5	●	●	●	●	●	●	●	●
	NEW AS42S2SF2FA-1	4.2		●	●	●	●	●	●	●
	AS50S2SF2FA-1	5.0			●	●	●	●	●	●
FLAIR	AS71S2SF2FA-1	7.1				●	●	●	●	●
	AS20TADHRA-1	2.0	●	●	●	●	●	●		
	AS25TADHRA-1	2.5	●	●	●	●	●	●		
TUNDRA 2.0	AS35TADHRA-1	3.5	●	●	●	●	●	●		
	AF25S2SD1FA	2.5		●	●	●				
	AF35S2SD1FA	3.5		●	●	●				
CONSOLE	NEW AF42S2SD1FA	4.2		●	●	●				
	AB25S2SC1FA	2.5			●	●	●	●	●	●
	AB35S2SC1FA	3.5			●	●	●	●	●	●
CASSETTE 700 (PHASED OUT)	AB50S2SC1FA	5.0			●	●	●	●	●	●
NEW 	AB25S2SC2FA	2.5			●	●	●	●	●	●
	AB35S2SC2FA	3.5			●	●	●	●	●	●
CASSETTE 620	AB50S2SC2FA	5.0			●	●	●	●	●	●
 ROUND FLOW CASSETTE	AB71S2SG1FA	7.1				●	●	●	●	●
	AC35S2SG1FA	3.5			●	●	●	●	●	●
	AC50S2SG1FA	5.0			●	●	●	●	●	●
CEILING / FLOOR CONVERTIBLE	AC71S2SG1FA	7.1				●	●	●	●	●
	AD25S2SS1FA	2.5			●	●	●	●	●	●
	AD35S2SS1FA	3.5			●	●	●	●	●	●
	AD50S2SS1FA	5.0			●	●	●	●	●	●
SLIM DUCT LOW PRESSURE	AD71S2SS1FA	7.1				●	●	●	●	●
	AD35S2SM3FA	3.5			●	●	●	●	●	●
	AD50S2SM3FA	5.0			●	●	●	●	●	●
DUCTED MEDIUM PRESSURE	AD71S2SM3FA	7.1				●	●	●	●	●

The expressed kW/Btu is for cooling classification.
For exact values, see the technical data tables of the individual models.

PAY ATTENTION TO THE SIZE OF THE PLACE IN REFERENCE TO THE EN378 STANDARD

Residential R32 Monosplit

Haier

MONOSPLIT R32

SERIES	2.5 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
JADE	 AS25JBJHRA-W 2501301Q3	 AS35JBJHRA-W 2501302Q3		 AS50JDJHRA-W 2501305Q3	
	 1U25JEJFRA 2502301Q3	 1U35JEJFRA 2502302Q3		 1U50REJFRA 2502305Q3	

MONOSPLIT R32

SERIES	2.5 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
DAWN	 AS25S2SD1FA 2501301S3	 AS35S2SD1FA 2501302S3		 AS50S2SD1FA 2501306S3	
	 1U25S2PJ1FA 2502301S3	 1U35S2PJ1FA 2502302S3		 1U50S2PR1FA 2502306S3	

MONOSPLIT R32

SERIES	7.1 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
FA TOWER	 AP71UFAHRA 25013A6B2				 1U71REAFRA 25023A6B2
ZUN TOWER	 AP71DFCHRA 25013A6C2				 1U71RECFRA 25023A6C2

MONOSPLIT R32

SERIES	2.5 kW	3.5 kW	4.2 kW	5.0 kW	6.8 kW
TUNDRA 2.0	 AS25TADHRA-1 2501301RA	 AS35TADHRA-1 2501302RA		 AS50TDDHRA-CL 2501305SA	 AS68TEDHRA-CL 2501306SA
	 1U25BEEFRA 2502301RA	 1U35MEEFRA 2502302RA		 1U50MEEFRA 2502305RA	 1U68REEFRA 2502306RA

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

MONOSPLIT R32

SERIES	2.5 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
FLEXIS BLACK	 AS25S2SF1FA-MB 2501301W2	 AS35S2SF1FA-MB 2501302W2	 AS42S2SF1FA-MB 2501304W2	 AS50S2SF1FA-MB 2501305W2	 AS71S2SF1FA-MB 2501306W2
FLEXIS WHITE	 AS25S2SF1FA-MW 2501301X2	 AS35S2SF1FA-MW 2501302X2	 AS42S2SF1FA-MW 2501304X2	 AS50S2SF1FA-MW 2501305X2	 AS71S2SF1FA-MW 2501306X2
FLAIR	AS25S2SF2FA-1 2501301U2	AS35S2SF2FA-1 2501302U2	AS42S2SF2FA-1 2501304U2	AS50S2SF2FA-1 2501305U2	AS71S2SF2FA-1 2501306U2
CONSOLE	 AF25S2SD1FA 2501421A2	 AF35S2SD1FA 2501422A2	 AF42S2SD1FA 2501424A2		
CASSETTE 700		 AB35S2SC1FA 2501452D2		 AB50S2SC1FA 2501455D2	
CASSETTE 620		 AB35S2SC2FA 2501452C2		 AB50S2SC2FA 2501455C2	
ROUND FLOW CASSETTE					 AB71S2SG1FA 2501456A2
CEILING / FLOOR CONVERTIBLE		 AC35S2SG1FA 2501402A2		 AC50S2SG1FA 2501405A2	 AC71S2SG1FA 2501406A2
SLIM DUCT LOW PRESSURE		 AD35S2SS1FA 2504652A2		 AD50S2SS1FA 2504655A2	 AD71S2SS1FA 2504656A2
DUCTED HIGH PRESSURE		 AD35S2SM3FA 2501652B2		 AD50S2SM3FA 2501655B2	 AD71S2SM3FA 2501656B2
OUTDOOR UNIT MONOSPLIT	 1U25S2SM1FA 2502301T2	 1U35S2SM1FA 2502302T2	 1U42S2SM1FA 2502304T2	 1U50S2SJ2FA 2502305T2	 1U71S2SG1FA 2502306S2

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

Residential R32 Multisplit

Haier

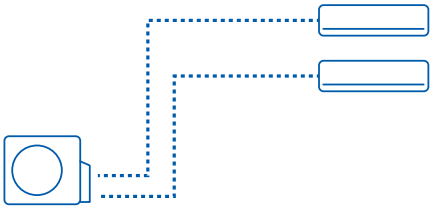
INDOOR UNIT MULTISPLIT R32

SERIES	2.0 kW	2.5 kW	3.5 kW	4.2 kW	5.0 kW	7.1 kW
DAWN (PHASED OUT)	 AS20S2SD1FA 2501300S3	 AS25S2SD1FA 2501301S3	 AS35S2SD1FA 2501302S3	 AS42S2SD1FA 2501305S3	 AS50S2SD1FA 2501306S3	
FLEXIS BLACK	 AS20S2SF1FA-MB 2501300W2	 AS25S2SF1FA-MB 2501301W2	 AS35S2SF1FA-MB 2501302W2	 AS42S2SF1FA-MB 2501304W2	 AS50S2SF1FA-MB 2501305W2	 AS71S2SF1FA-MB 2501306W2
FLEXIS WHITE	 AS20S2SF1FA-MW 2501300X2	 AS25S2SF1FA-MW 2501301X2	 AS35S2SF1FA-MW 2501302X2	 AS42S2SF1FA-MW 2501304X2	 AS50S2SF1FA-MW 2501305X2	 AS71S2SF1FA-MW 2501306X2
FLAIR	AS20S2SF2FA-1 2501300U2	AS25S2SF2FA-1 2501301U2	AS35S2SF2FA-1 2501302U2	AS42S2SF2FA-1 2501304U2	AS50S2SF2FA-1 2501305U2	AS71S2SF2FA-1 2501306U2
TUNDRA 2.0	 AS20TADHRA-1 2501300RA	 AS25TADHRA-1 2501301RA	 AS35TADHRA-1 2501302RA			
CONSOLE		 AF25S2SD1FA 2501421A2	 AF35S2SD1FA 2501422A2	 AF42S2SD1FA 2501424A2		
CASSETTE 700 (PHASED OUT)		 AB25S2SC1FA 2501451D2	 AB35S2SC1FA 2501452D2		 AB50S2SC1FA 2501455D2	
NEW CASSETTE 620		 AB25S2SC2FA 2501451C2	 AB35S2SC2FA 2501452C2		 AB50S2SC2FA 2501455C2	
ROUND FLOW CASSETTE						 AB71S2SG1FA 2501456A2
CEILING / FLOOR CONVERTIBLE			 AC35S2SG1FA 2501402A2		 AC50S2SG1FA 2501405A2	 AC71S2SG1FA 2501406A2
SLIM DUCT LOW PRESSURE		 AD25S2SS1FA 2504651A2	AD35S2SS1FA 2504652A2		AD50S2SS1FA 2504655A2	AD71S2SS1FA 2504656A2
DUCTED MEDIUM PRESSURE			AD35S2SM3FA 2501652B2		AD50S2SM3FA 2501655B2	AD71S2SM3FA 2501656B2

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

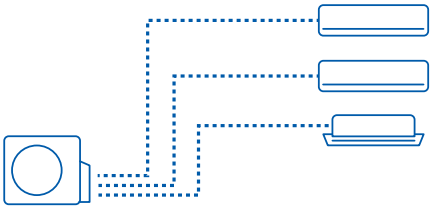
OUTDOOR UNIT MULTISPLIT R32							
NEW 4.0 kW	NEW 5.0 kW	5.5 kW	7.0 kW	7.5 kW	8.5 kW	NEW 9.0 kW	10.5 kW
1:2		1:3		1:4		1:5	
							
2U40S2SM1FA 2502323B2	**2U50S2SM1FA** 2502325B2	**3U55S2SR2FA** 2502325G2	**3U70S2SR2FA** 2502325K2	**4U75S2SR2FA** 2502326B2	**4U85S2SR2FA** 2502327B2	**5U90S2SS2FA** 2502327H2	**5U105S2SS3FA** 2502328B2

COMPATIBLE UNITS 1:2



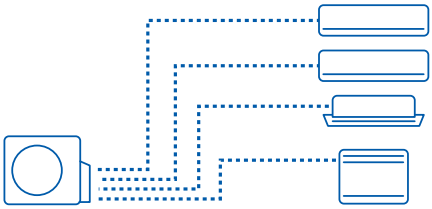
Wall

COMPATIBLE UNITS 1:3



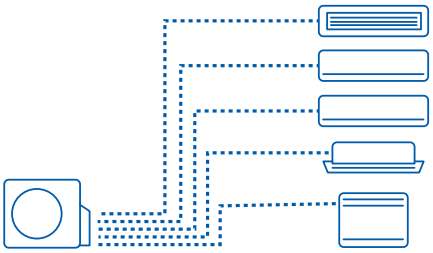
Wall - Cassettes - Ceiling/Floor Convertible - Console Ducted

COMPATIBLE UNITS 1:4



Wall - Cassettes - Ceiling/Floor Convertible - Console Ducted

COMPATIBLE UNITS 1:5



Wall - Cassettes - Ceiling/Floor Convertible - Console Ducted

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

MONOSPLIT R32

SERIES	3.5 kW	4.2 kW	5.0 kW	7.1 kW
CASSETTE 700 (PHASED OUT)	 **AB35S2SC1FA** 2501452D2		 **AB50S2SC1FA** 2501455D2	
NEW CASSETTE 620	 **AB35S2SC2FA** 2501452C2		 **AB50S2SC2FA** 2501455C2	
ROUND FLOW CASSETTE				 **AB71S2SG1FA** 2501456A2
CEILING / FLOOR CONVERTIBLE	 **AC35S2SG1FA** 2501402A2		 **AC50S2SG1FA** 2501405A2	 **AC71S2SG1FA** 2501406A2
SLIM DUCT LOW PRESSURE	 **AD35S2SS1FA** 2504652A2		 **AD50S2SS1FA** 2504655A2	 **AD71S2SS1FA** 2504656A2
DUCTED MEDIUM PRESSURE	 **AD35S2SM3FA** 2501652B2		 **AD50S2SM3FA** 2501655B2	 **AD71S2SM3FA** 2501656B2
DUCTED HIGH PRESSURE				
OUTDOOR UNIT MONOSPLIT R32				
SINGLE-PHASE	**1U35S2SM1FA** 2502302T2		**1U50S2SJ2FA** 2502305T2	**1U71S2SG1FA** 2502306S2
THREE-PHASE				

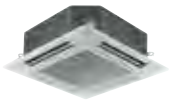
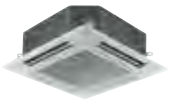
The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

MONOSPLIT R32

9.0 kW	10.5 kW	12.5 kW	14.0 kW
			
	ABH105H1ERG 25014A80L	**ABH125K1ERG** 25014A90L	**ABH140K1ERG** 25014A95L
			
	AC105S2SH1FA 2501408A2	**AC125S2SK1FA** 2501409A2	**AC140S2SK1FA** 2501409B2
			
	AD105S2SM3FA 2501658B2	**AD125S2SM3FA** 2501659B2	**AD140S2SM3FA** 2501659C2
			
		ADH125H1ERG 25017A90L	**ADH140H1ERG** 25017A95L
			
	1U105S2SS1FA 2502308A2	**1U125S2SN1FA** 2502309A2	**1U140S2SP1FA** 2502309D2
	NEW **1U105S2SS1FB** 2502308B2	**1U125S2SN1FB** 2502309B2	**1U140S2SP1FB** 2502309F2

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

MONOSPLIT R410A

SERIES	9.0 kW	10.5 kW	12.5 kW
CASSETTE	 **AB28ES1ERA(S)** 25014572L	 **AB36ES1ERA(S)** 25014582L	 **AB48ES1ERA(S)** 25014592L
ROUND FLOW CASSETTE	 **ABH090H1ERG** 25014A70L	 **ABH105H1ERG** 25014A80L	 **ABH125K1ERG** 25014A90L
CEILING / FLOOR CONVERTIBLE		 **AC105S2SH1FA** 2501408A2	 **AC125S2SK1FA** 2501409A2
DUCTED MEDIUM PRESSURE	 **AD90S2SM3FA** 2501657B2	 **AD105S2SM3FA** 2501658B2	 **AD125S2SM3FA** 2501659B2
DUCTED HIGH PRESSURE			 **ADH125H1ERG** 25017A90L
KS TOWER			 **AP48KS1ERA(S)** 25015593L
DS TOWER			 **AP48DS1ERA(S)** 25015591L
OUTDOOR UNIT MONOSPLIT R410A			
SINGLE-PHASE	**1U28GS2ERA(S)** 25023073L	**1U36HS1ERA(S)** 25023082L	**1U48LS1ERA(S)** 2502309AL
THREE-PHASE			**1U48LS1ERB(S)** 2502309DL

The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

MONOSPLIT R410A

14.0 kW	16.0 kW	20.0 kW	25.0 kW
 **AB60ES2ERA(S)** 25014596L			
 **ABH140K1ERG** 25014A95L			
 **AC140S2SK1FA** 2501409B2			
 **AD140S2SM3FA** 2501659C2			
 **ADH140H1ERG** 25017A95L	 **ADH160H1ERG** 25017A9AL	 **ADH200H1ERG** 25017A9DL	 **ADH250H1ERG** 25017A9HL
 **AP60KS1ERA(S)** 25015595L			
			
	1UH160P1ERG 25023A9AL		
1U60IS2ERB(S) 25023096L		**1UH200W1ERK** 25023A9DL	**1UH250W1ERK** 25023A9HL

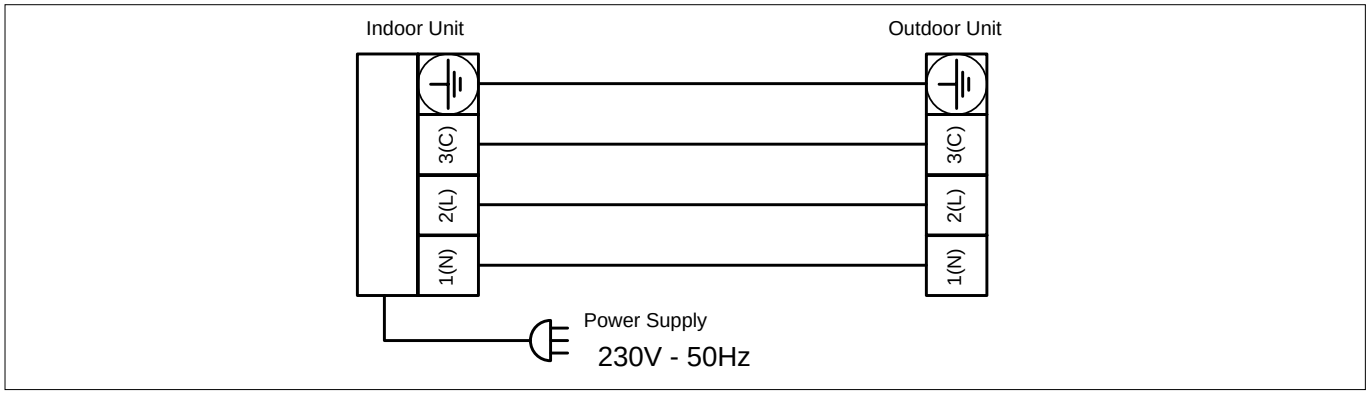
The expressed kW/Btu is for cooling classification. For exact values, see the technical data tables of the individual models.

AS25JBJHRA-W - 1U25JEJFRA (2.5 kW)

AS35JBJHRA-W - 1U35JEJFRA (3.5 kW)

AS50JBJHRA-W - 1U50REJFRA (5.0 kW)

WIRING DIAGRAM 2.5 kW -3.5 kW -5.0 kW I

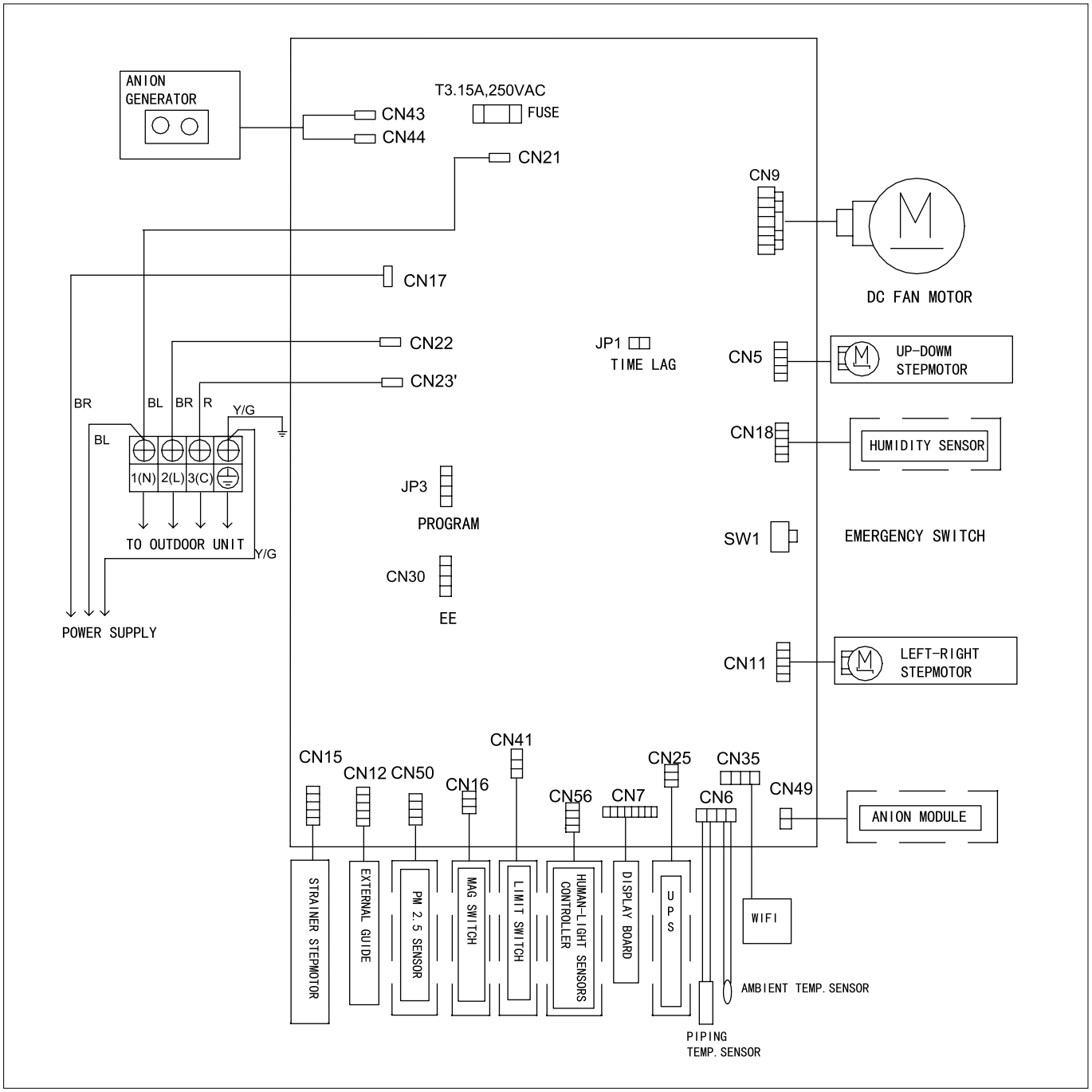


INDOOR UNIT	Model		**AS25JBJHRA-W**	**AS35JBJHRA-W**	**AS50JDJHRA-W**
OUTDOOR UNIT	Model		**1U25JEJFRA**	**1U35JEJFRA**	**1U50REJFRA**
Indoor unit technical data					
Treated air volume	H	m^3/h	550	600	900
Dimensions	WxDxH	mm	923x215x320	923x215x320	1050x235x350
Net weight		kg	12	12	14.9
Outdoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7
Standard pipe length without refrigerant charge		m	7	7	7
Maximum pipe length		m	15	15	25
Maximum IU - OU elevation		m	10	10	15
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	0.74 / 0.50	0.74 / 0.50	1.20 / 0.81
Additional refrigerant charge beyond standard length		g/m	20	20	20
Dimensions	WxDxH	mm	800x275x553	800x275x553	890x353x697
Net weight		kg	29.8	29.8	45.5
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Indoor unit power cable		mm^2	3G1.5		3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5		4G1.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW

	ERROR CODES		
	INDOOR	**OUTDOOR (LED1 flash)**	**DESCRIPTION**
INDOOR AND OUTDOOR	E7	15	COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS
	E5	22	POWER TERMINAL TEMP. PROTECTION (CN45)/GHIACCIO IU
INDOOR UNIT MALFUNCTIONS	E1		AMBIENT TEMPERATURE SENSOR FAULTY
	E2		PIPING TEMPERATURE SENSOR FAULTY
	E4		INDOOR UNIT BOARD FAULTY
	E9	21	INDOOR UNIT OVERHEATING
	E14		INDOOR UNIT FAN MOTOR FAULTY
OUTDOOR UNIT MALFUNCTIONS	F12	1	OUTDOOR UNIT BOARD FAULTY
	F1	2	POWER MODULE PROTECTION
	F22	3	ALTERNATING CURRENT SIDE OVERCURRENT PROTECTION
	F3	4	COMMUNICATION ERROR BETWEEN POWER MODULE AND MAIN PCB
	F19	6	SUPPLY VOLTAGE TOO HIGH/LOW
	F27	7	SUPPLY VOLTAGE INCORRECT/POWER MODULE FAULTY/COMPRESSOR BLOCKED
	F4	8	COMPRESSOR DRAIN PIPE OVERHEATING PROTECTION
	F8	9	DC FAN MOTOR PROTECTION
	F21	10	DEFROST TEMPERATURE SENSOR FAULTY
	F7	11	INTAKE TEMPERATURE SENSOR FAULTY
	F6	12	AMBIENT TEMPERATURE SENSOR FAULTY
	F25	13	COMPRESSOR DRAIN TEMPERATURE SENSOR FAULTY
	F13	16	LACK OF REFRIGERANT
	F14	17	FAULTY 4-WAY VALVE
	F11	18	FAULTY INVERTER CIRCUIT, DAMAGED POWER MODULE/PCB/COMPRESSOR
	F11	18	COMPRESSOR FAULT
	F28	19	INCORRECT POSITIONING OF COMPRESSOR ROTOR
	F15	20	BOARD/TERMINAL OVERHEATING PROTECTION
	F2	24	COMPRESSOR OVERCURRENT PROTECTION
	F23	25	OVERCURRENT PROTECTION OF A COMPRESSOR WINDING

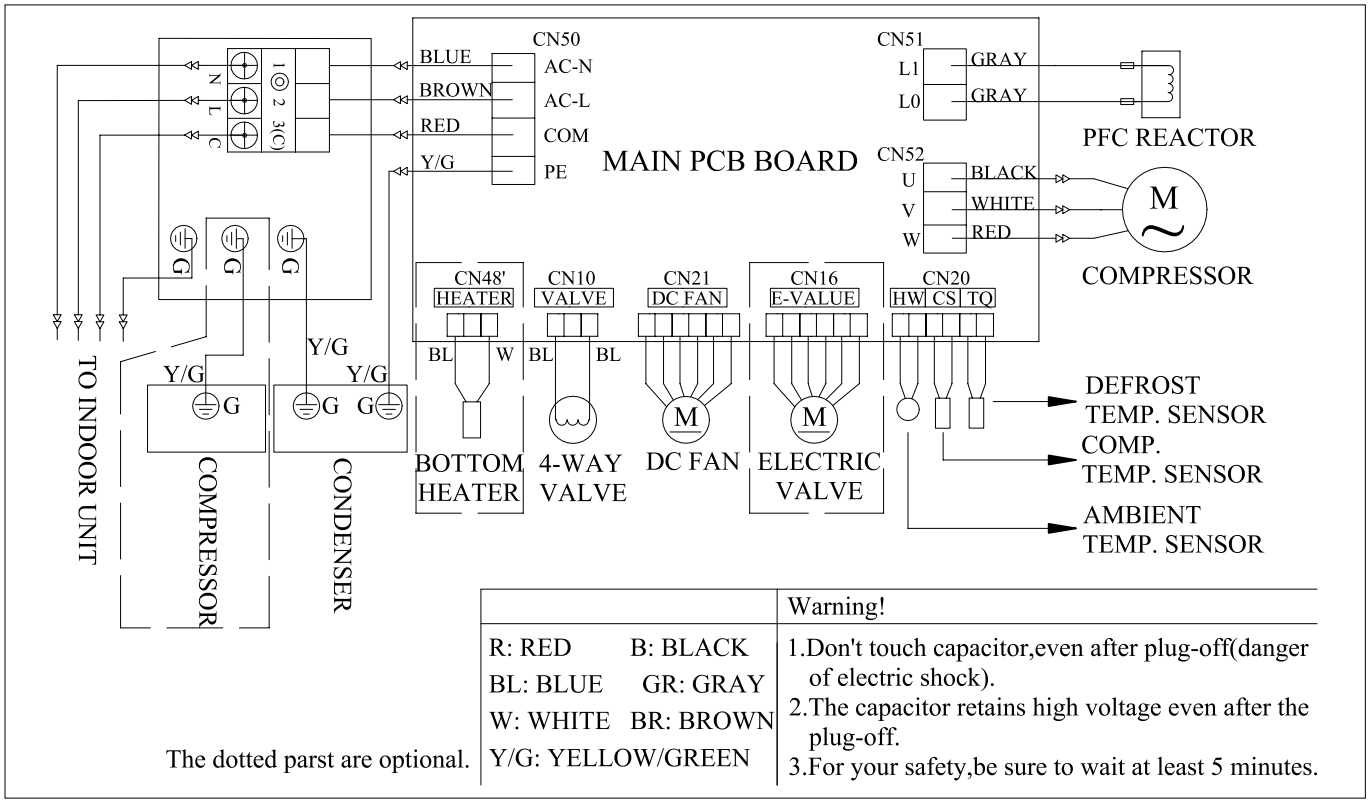
IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW



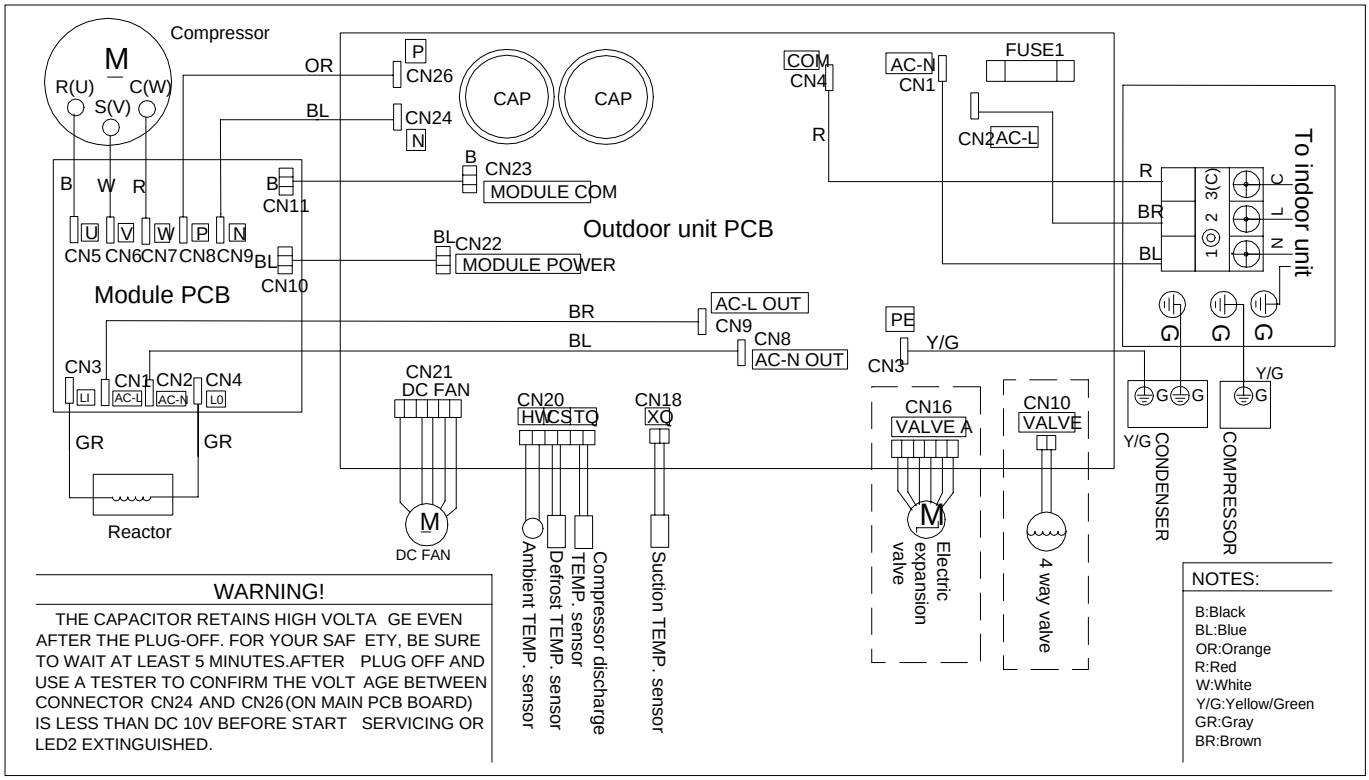
INDOOR UNIT SETTING

	2.5 kW	3.5 kW	5.0 kW	Description
J1	OFF	OFF	OFF	Selecting the display type (OFF:DEFAULT)
J2	ON	ON	ON	Selecting the filter IFD:ON, HEPA:OFF
J3	OFF	OFF	OFF	Selecting remote transmission frequency. A:OFF, B:ON
J4	OFF	ON	ON	Selecting the indoor unit model (Pay attention that the PCB code may vary depending on the models. Always check the respective parts list)

OU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW



OU CIRCUIT DIAGRAM 5.0 kW

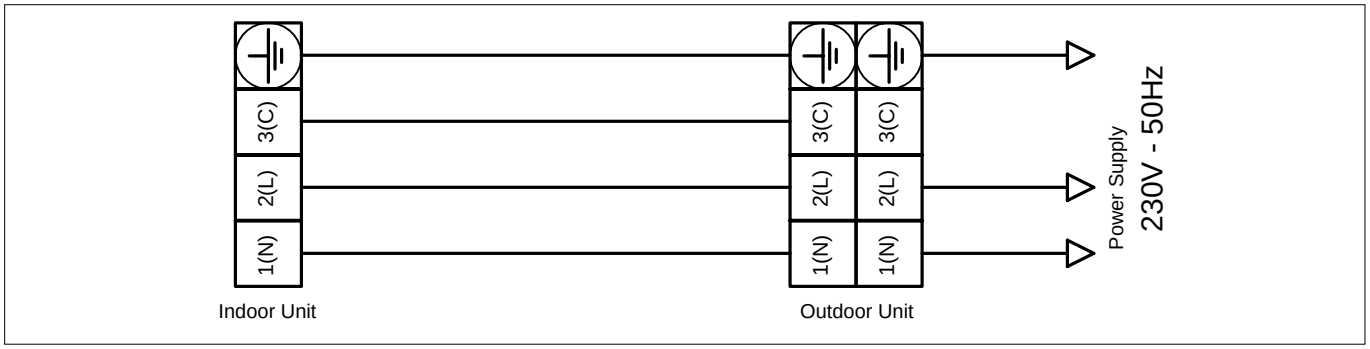


AS25S2SD1FA - 1U25S2PJ1FA (2.5 kW)

AS35S2SD1FA - 1U35S2PJ1FA (3.5 kW)

AS502S2SD1FA - 1U50S2PR1FA (5 kW)

WIRING DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW

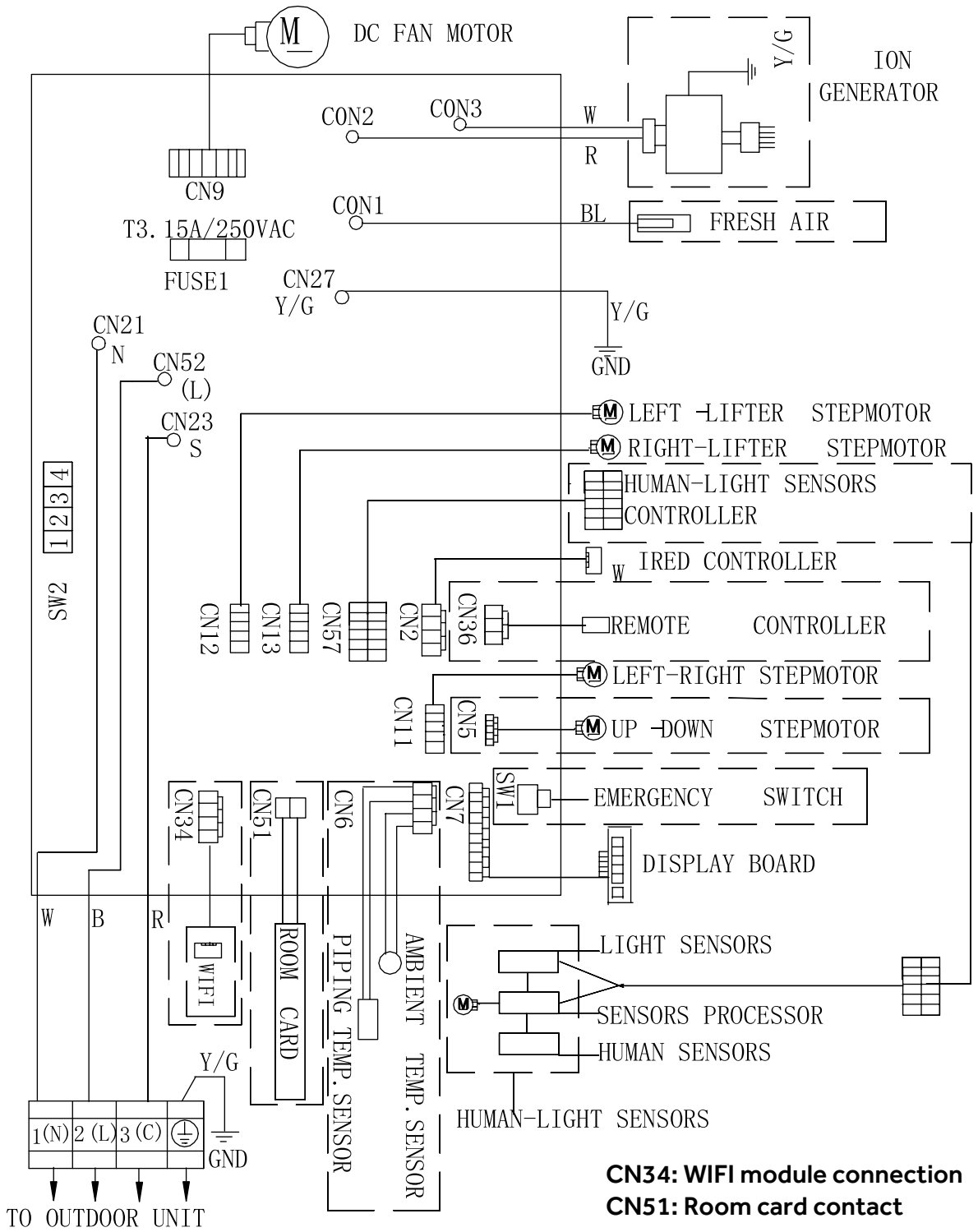


INDOOR UNIT	Model		AS25S2SD1FA	AS35S2SD1FA	AS50S2SD1FA
OUTDOOR UNIT	Model		1U25S2PJ1FA	1U35S2PJ1FA	1U50S2PR1FA
Indoor unit technical data					
Treated air volume		m^3/h	650	700	900
Dimensions	WxDxH	mm	980x212x318	980x212x318	1113x230x343
Net weight		kg	11.8	11.8	15.5
Outdoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7
Standard pipe length without refrigerant charge		m	7	7	7
Maximum pipe length		m	15	15	15
Maximum IU - OU elevation		m	10	10	10
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	0.90 / 0.60	0.90 / 0.60	1.2 / 0.81
Additional refrigerant charge beyond standard length		g/m	20	20	20
Dimensions	WxDxH	mm	820x338x614	820x338x614	890x353x697
Net weight		kg	37.4	37.4	45.5
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G1.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW

	ERROR CODES		
	INDOOR	OUTDOOR (LED1 flash)	DESCRIPTION
INDOOR AND OUTDOOR	E7	15	COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS
	E5	22	POWER TERMINAL TEMP. PROTECTION (CN45)/GHIACCIO IU
INDOOR UNIT MALFUNCTIONS	E1		AMBIENT TEMPERATURE SENSOR FAULTY
	E2		PIPING TEMPERATURE SENSOR FAULTY
	E4		INDOOR UNIT BOARD FAULTY
	E9	21	INDOOR UNIT OVERHEATING
	E14		INDOOR UNIT FAN MOTOR FAULTY
OUTDOOR UNIT MALFUNCTIONS	F12	1	OUTDOOR UNIT BOARD FAULTY
	F1	2	POWER MODULE PROTECTION
	F22	3	ALTERNATING CURRENT SIDE OVERCURRENT PROTECTION
	F3	4	COMMUNICATION ERROR BETWEEN POWER MODULE AND MAIN PCB
	F19	6	SUPPLY VOLTAGE TOO HIGH/LOW
	F27	7	SUPPLY VOLTAGE INCORRECT/POWER MODULE FAULTY/COMPRESSOR BLOCKED
	F4	8	COMPRESSOR DRAIN PIPE OVERHEATING PROTECTION
	F8	9	DC FAN MOTOR PROTECTION
	F21	10	DEFROST TEMPERATURE SENSOR FAULTY
	F7	11	INTAKE TEMPERATURE SENSOR FAULTY
	F6	12	AMBIENT TEMPERATURE SENSOR FAULTY
	F25	13	COMPRESSOR DRAIN TEMPERATURE SENSOR FAULTY
	F13	16	LACK OF REFRIGERANT
	F14	17	FAULTY 4-WAY VALVE
	F11	18	FAULTY INVERTER CIRCUIT, DAMAGED POWER MODULE/PCB/COMPRESSOR
	F11	18	COMPRESSOR FAULT
	F28	19	INCORRECT POSITIONING OF COMPRESSOR ROTOR
	F15	20	BOARD/TERMINAL OVERHEATING PROTECTION
	F2	24	COMPRESSOR OVERCURRENT PROTECTION
	F23	25	OVERCURRENT PROTECTION OF A COMPRESSOR WINDING

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW

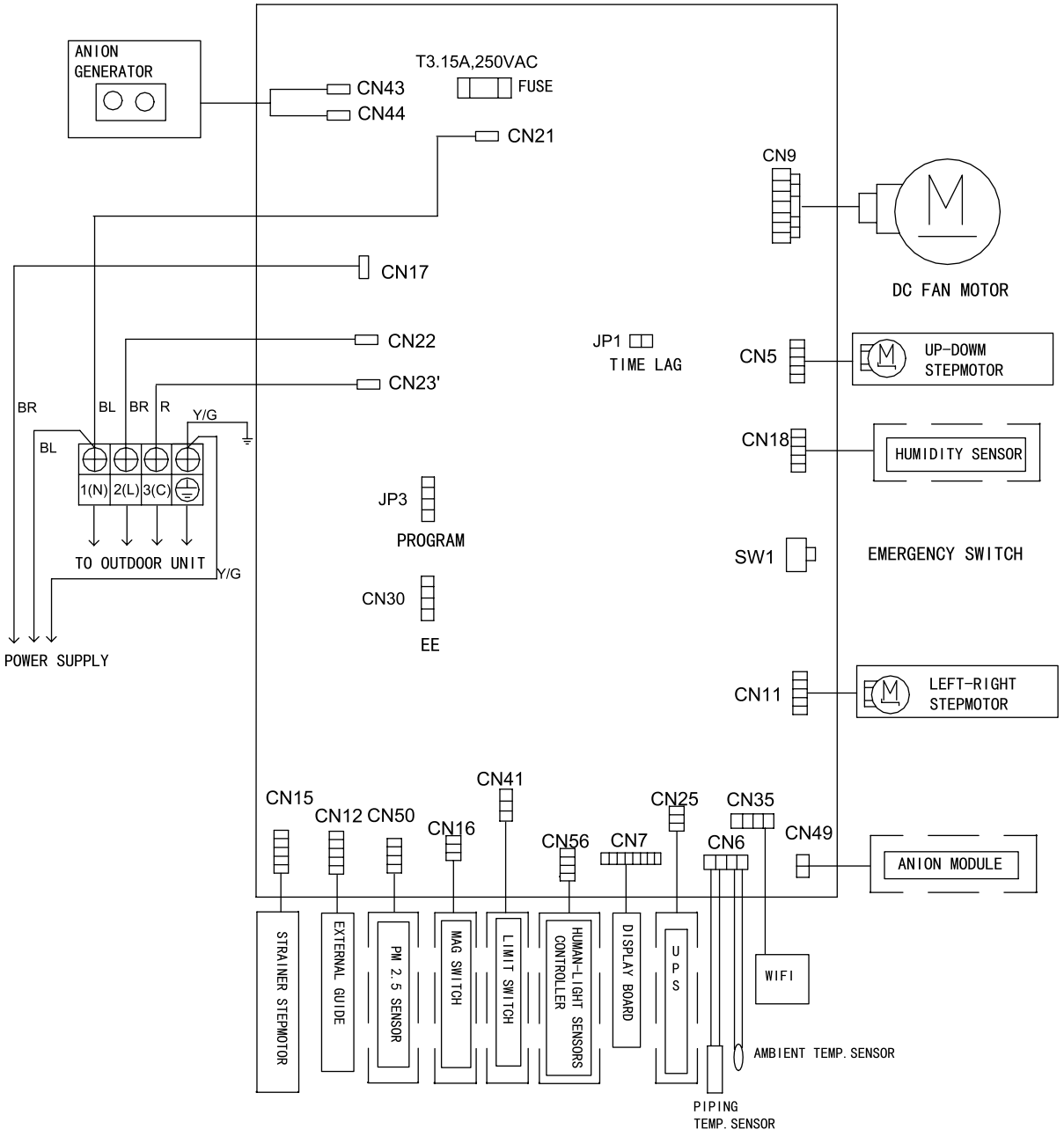


CN34: WIFI module connection
CN51: Room card contact

Notes:
1. The dotted parts are optional.
2. The two pins of CN51 should be shorted, when the second channel(RC) of SW2 is selected.

R:Red	B:Black
W:White	BL:Blue
Y:Yellow	BR:Brown
Y/G:Yellow/Green	

IU CIRCUIT DIAGRAM 5.0 kW



NOTE:

1. The dotted parts are optional
2. Hazardous substance A should meet the relevant requirements of standard Q/TR 0603 001 and Q/HR 0603 003.

B	BLACK
R	RED
BR	BROWN
BL	BLUE
W	WHITE
Y/G	YELLOW/GREEN

INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

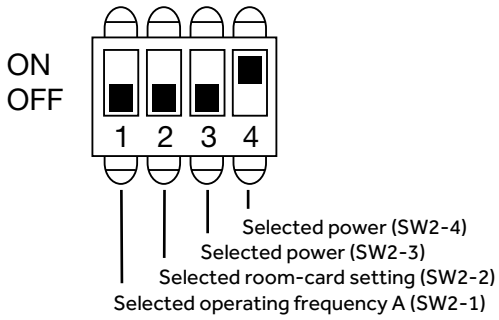
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

	5.0 kW	4.2 kW	3.5 kW	2.5 kW	2.0 kW
SW2-3	ON	ON	ON	OFF	OFF
SW2-4	ON	ON	ON	ON	ON

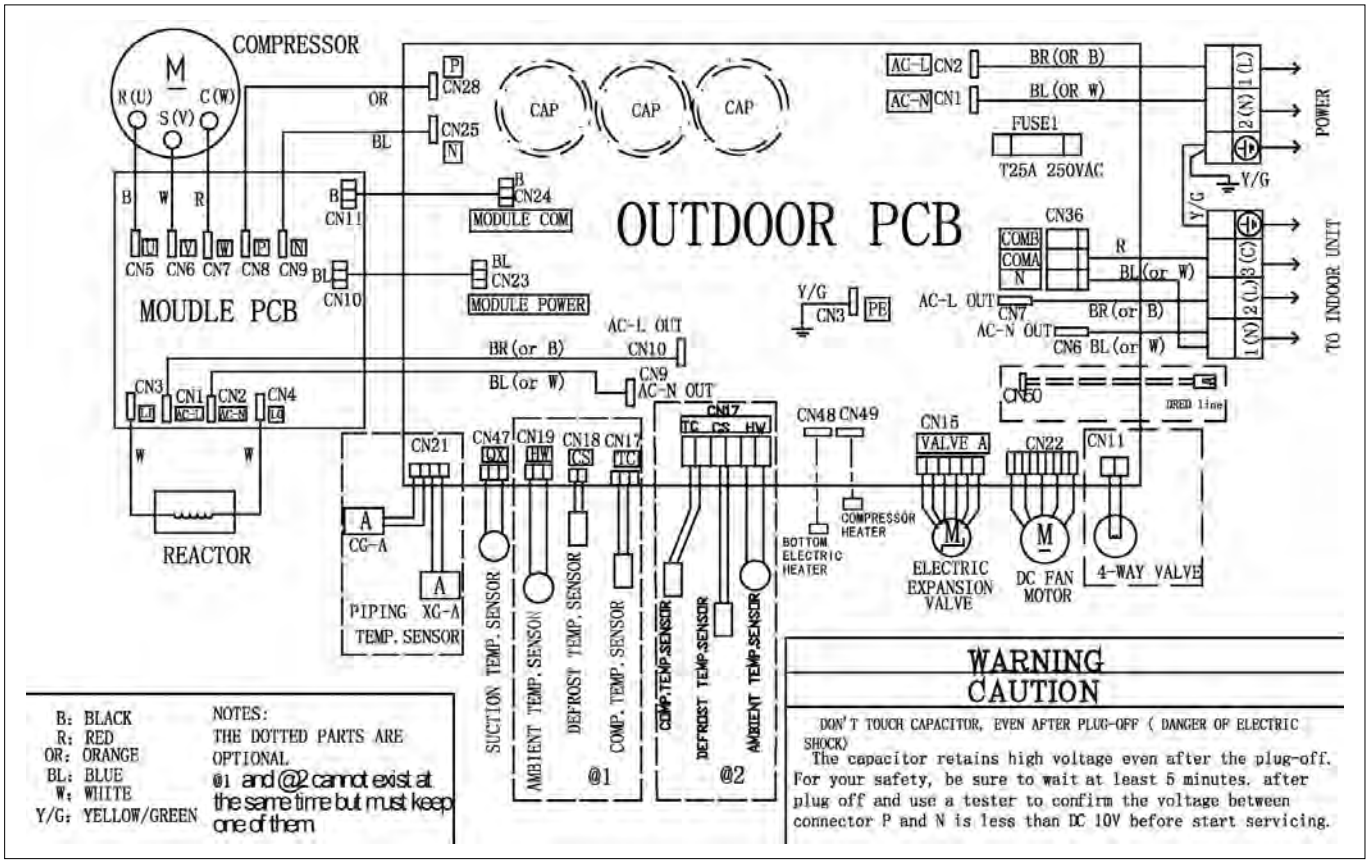
	DAWN
J1	ON
J2	ON

SW2 setting example

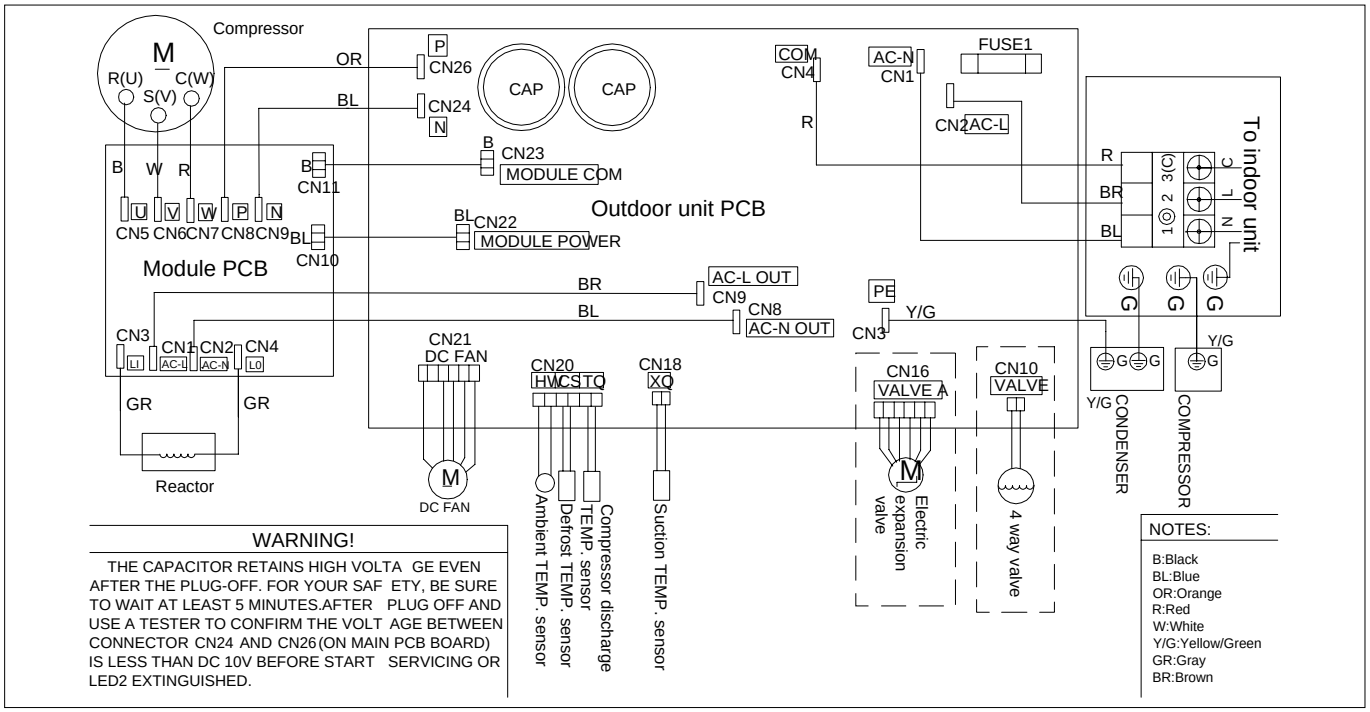


Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

OU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW

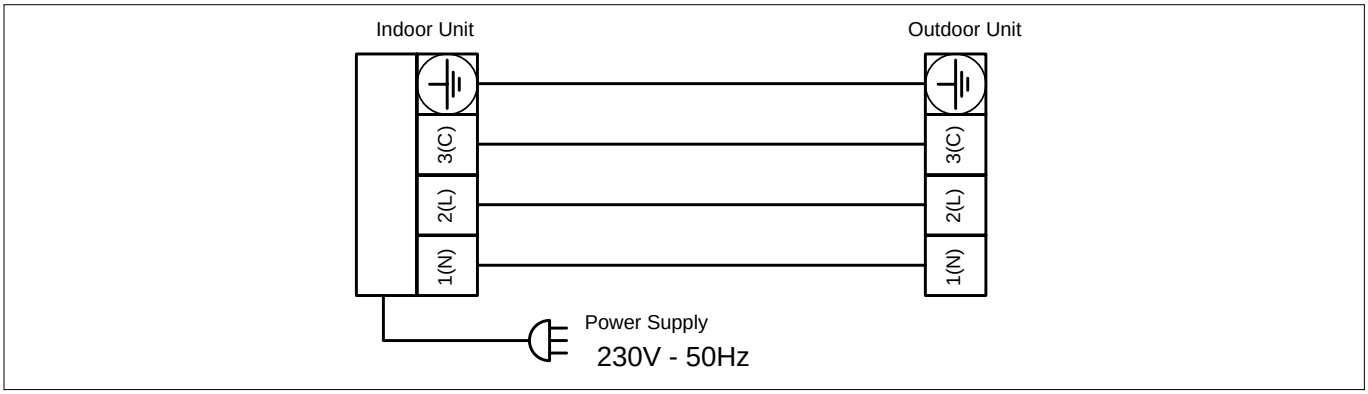


OU CIRCUIT DIAGRAM 5.0 kW



AP71UFAHRA - 1U71REAFRA (7.1 kW)

WIRING DIAGRAM 7.1 kW

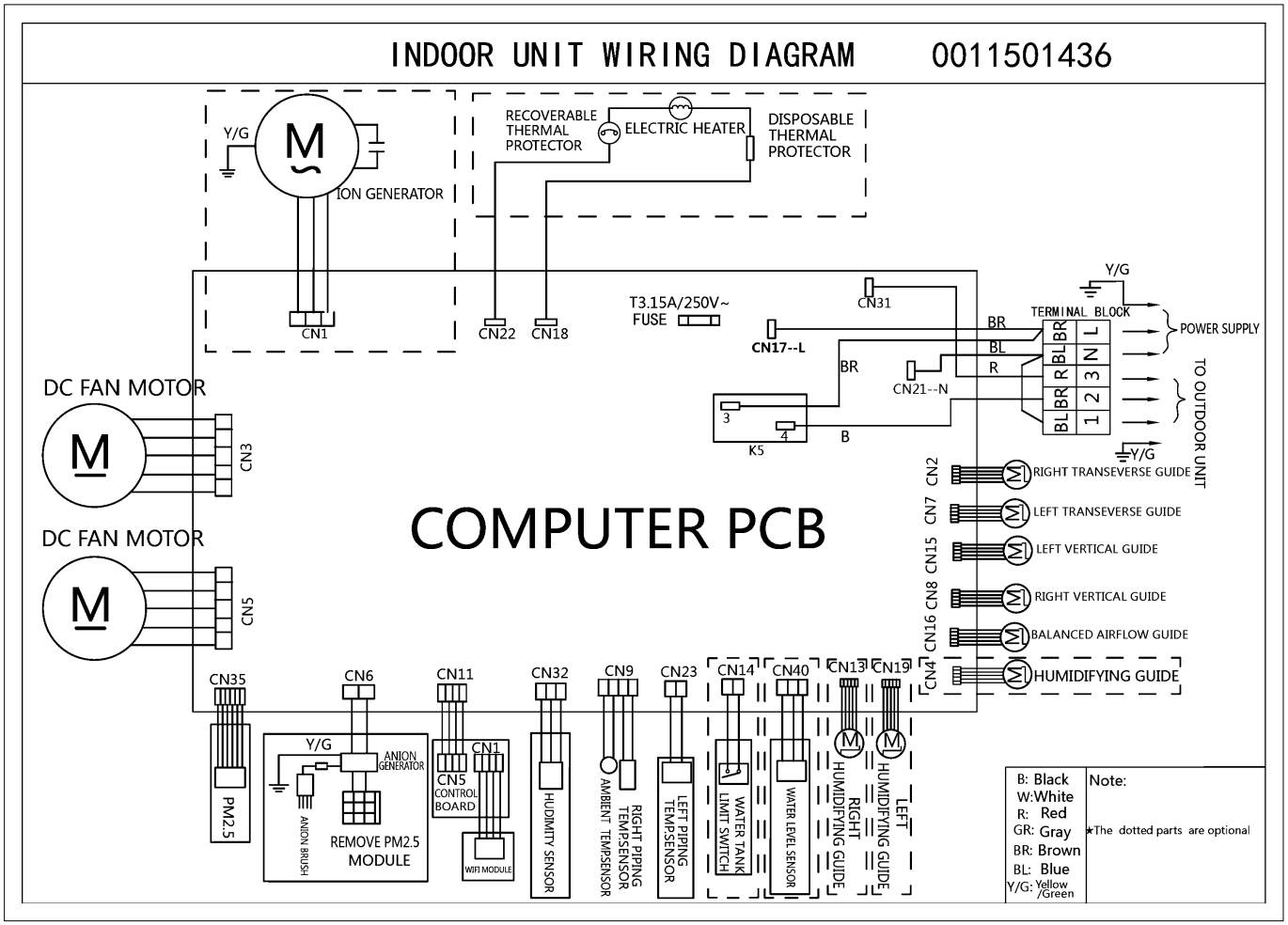


INDOOR UNIT	Model		**AP71UFAHRA**
OUTDOOR UNIT	Model		**1U71REAFRA**
Indoor unit technical data			
Treated air volume		m^3/h	1200
Dimensions	WxDxH	mm	505x1810x330
Net weight		kg	47
Outdoor unit technical data			
Liquid pipe Ø		mm	6.35
Gas pipe Ø		mm	12.7
Standard pipe length without refrigerant charge		m	10
Maximum pipe length		m	20
Maximum IU - OU elevation		m	10
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	1.6 / 1.08
Additional refrigerant charge beyond standard length		g/m	20
Dimensions	WxDxH	mm	890x353x697
Net weight		kg	47
Power Supply		V-Ph-Hz	230-1-50
Indoor unit power cable		mm^2	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G2.5

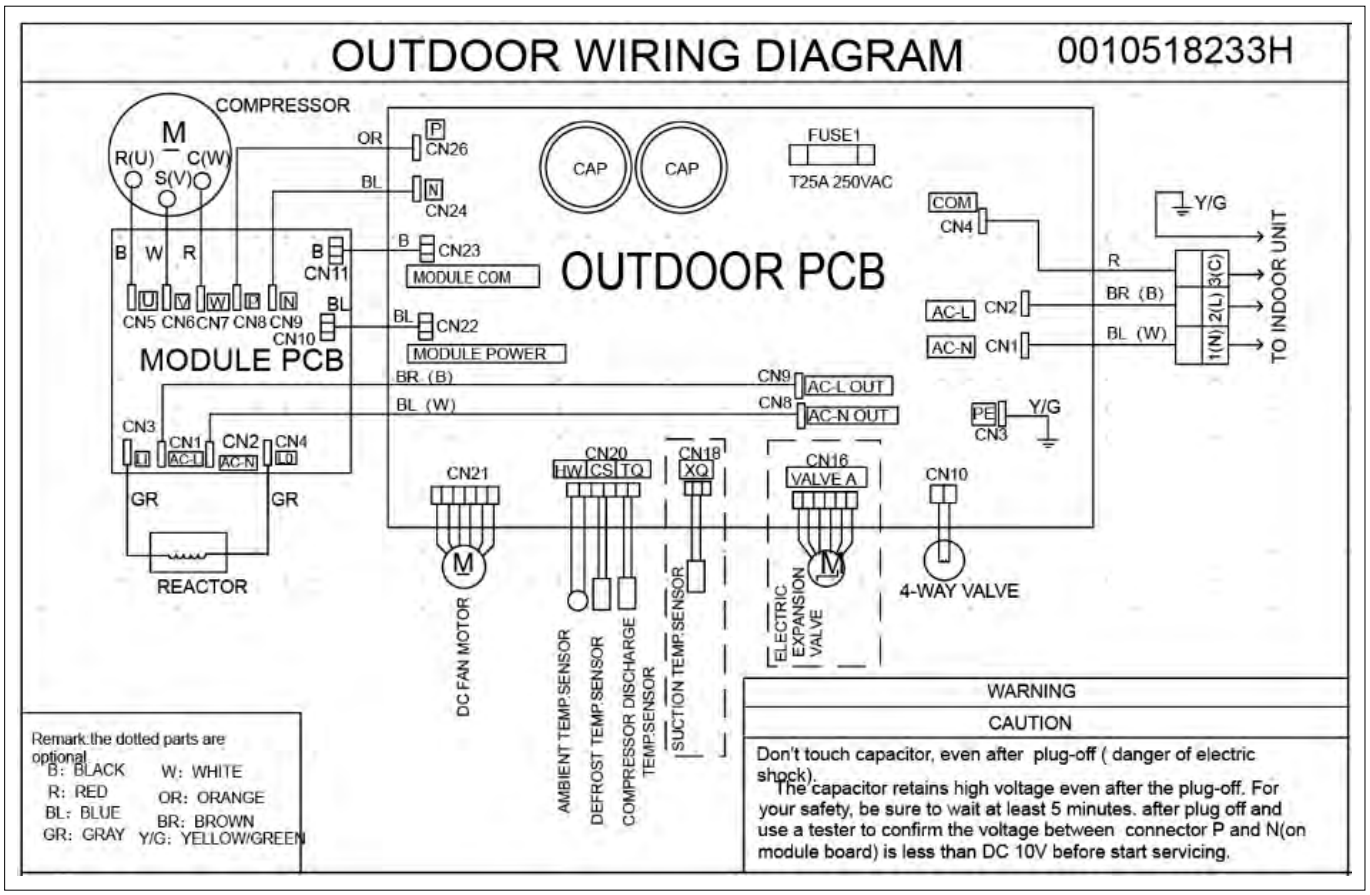
DIAGNOSTICS 7.1 kW

	ERROR CODES		
	INDOOR	**OUTDOOR (LED1 flash)**	**DESCRIPTION**
INDOOR AND OUTDOOR	E7	15	COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS
	E5	22	POWER TERMINAL TEMP. PROTECTION (CN45)/GHIACCIO IU
INDOOR UNIT MALFUNCTIONS	E1		AMBIENT TEMPERATURE SENSOR FAULTY
	E2		PIPING TEMPERATURE SENSOR FAULTY
	E4		INDOOR UNIT BOARD FAULTY
	E9	21	INDOOR UNIT OVERHEATING
	E14		INDOOR UNIT FAN MOTOR FAULTY
OUTDOOR UNIT MALFUNCTIONS	F12	1	OUTDOOR UNIT BOARD FAULTY
	F1	2	POWER MODULE PROTECTION
	F22	3	ALTERNATING CURRENT SIDE OVERCURRENT PROTECTION
	F3	4	COMMUNICATION ERROR BETWEEN POWER MODULE AND MAIN PCB
	F19	6	SUPPLY VOLTAGE TOO HIGH/LOW
	F27	7	SUPPLY VOLTAGE INCORRECT/POWER MODULE FAULTY/COMPRESSOR BLOCKED
	F4	8	COMPRESSOR DRAIN PIPE OVERHEATING PROTECTION
	F8	9	DC FAN MOTOR PROTECTION
	F21	10	DEFROST TEMPERATURE SENSOR FAULTY
	F7	11	INTAKE TEMPERATURE SENSOR FAULTY
	F6	12	AMBIENT TEMPERATURE SENSOR FAULTY
	F25	13	COMPRESSOR DRAIN TEMPERATURE SENSOR FAULTY
	F13	16	LACK OF REFRIGERANT
	F14	17	FAULTY 4-WAY VALVE
	F11	18	FAULTY INVERTER CIRCUIT, DAMAGED POWER MODULE/PCB/COMPRESSOR
	F11	18	COMPRESSOR FAULT
	F28	19	INCORRECT POSITIONING OF COMPRESSOR ROTOR
	F15	20	BOARD/TERMINAL OVERHEATING PROTECTION
	F2	24	COMPRESSOR OVERCURRENT PROTECTION
	F23	25	OVERCURRENT PROTECTION OF A COMPRESSOR WINDING

IU CIRCUIT DIAGRAM 7.1 kW

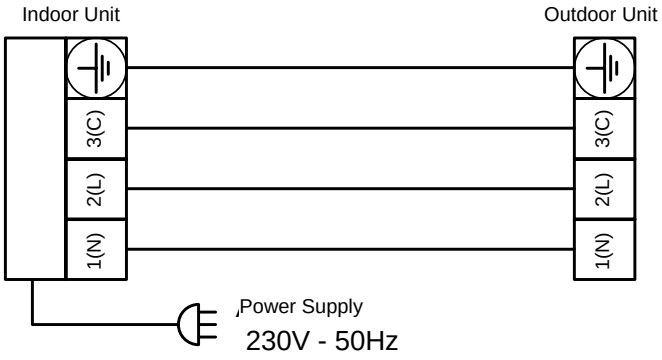


OU CIRCUIT DIAGRAM 7.1 kW



AP71DFCHRA - 1U71RECFRA (7.1 kW)

WIRING DIAGRAM 7.1 kW



INDOOR UNIT	Model		**AP71DFCHRA**
OUTDOOR UNIT	Model		**1U71RECFRA**
Indoor unit technical data			
Treated air volume		m^3/h	1200
Dimensions	WxDxH	mm	407x377x1810
Net weight		kg	32.5
Outdoor unit technical data			
Liquid pipe Ø		mm	6.35
Gas pipe Ø		mm	12.7
Standard pipe length without refrigerant charge		m	10
Maximum pipe length		m	20
Maximum IU - OU elevation		m	10
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	1.6 / 1.08
Additional refrigerant charge beyond standard length		g/m	20
Dimensions	WxDxH	mm	890x353x697
Net weight		kg	47
Power Supply		V-Ph-Hz	230-1-50
Indoor unit power cable		mm^2	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5

DIAGNOSTICS 7.1 kW

	ERROR CODES		
	INDOOR	**OUTDOOR (LED1 flash)**	**DESCRIPTION**
INDOOR AND OUTDOOR	E7	15	COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS
	E5	22	POWER TERMINAL TEMP. PROTECTION (CN45)/GHIACCIO IU
INDOOR UNIT MALFUNCTIONS	E1		AMBIENT TEMPERATURE SENSOR FAULTY
	E2		PIPING TEMPERATURE SENSOR FAULTY
	E4		INDOOR UNIT BOARD FAULTY
	E9	21	INDOOR UNIT OVERHEATING
	E14		INDOOR UNIT FAN MOTOR FAULTY
OUTDOOR UNIT MALFUNCTIONS	F12	1	OUTDOOR UNIT BOARD FAULTY
	F1	2	POWER MODULE PROTECTION
	F22	3	ALTERNATING CURRENT SIDE OVERCURRENT PROTECTION
	F3	4	COMMUNICATION ERROR BETWEEN POWER MODULE AND MAIN PCB
	F19	6	SUPPLY VOLTAGE TOO HIGH/LOW
	F27	7	SUPPLY VOLTAGE INCORRECT/POWER MODULE FAULTY/COMPRESSOR BLOCKED
	F4	8	COMPRESSOR DRAIN PIPE OVERHEATING PROTECTION
	F8	9	DC FAN MOTOR PROTECTION
	F21	10	DEFROST TEMPERATURE SENSOR FAULTY
	F7	11	INTAKE TEMPERATURE SENSOR FAULTY
	F6	12	AMBIENT TEMPERATURE SENSOR FAULTY
	F25	13	COMPRESSOR DRAIN TEMPERATURE SENSOR FAULTY
	F13	16	LACK OF REFRIGERANT
	F14	17	FAULTY 4-WAY VALVE
	F11	18	FAULTY INVERTER CIRCUIT, DAMAGED POWER MODULE/PCB/COMPRESSOR
	F11	18	COMPRESSOR FAULT
	F28	19	INCORRECT POSITIONING OF COMPRESSOR ROTOR
	F15	20	BOARD/TERMINAL OVERHEATING PROTECTION
	F2	24	COMPRESSOR OVERCURRENT PROTECTION
	F23	25	OVERCURRENT PROTECTION OF A COMPRESSOR WINDING

AS20S2SD1FA* (2.0 kW) AS42S2SD1FA* (4.2 kW) *Only for Multisplit

AS25S2SD1FA (2.5 kW) AS50S2SD1FA (5.0 kW)

AS35S2SD1FA (3.5 kW)

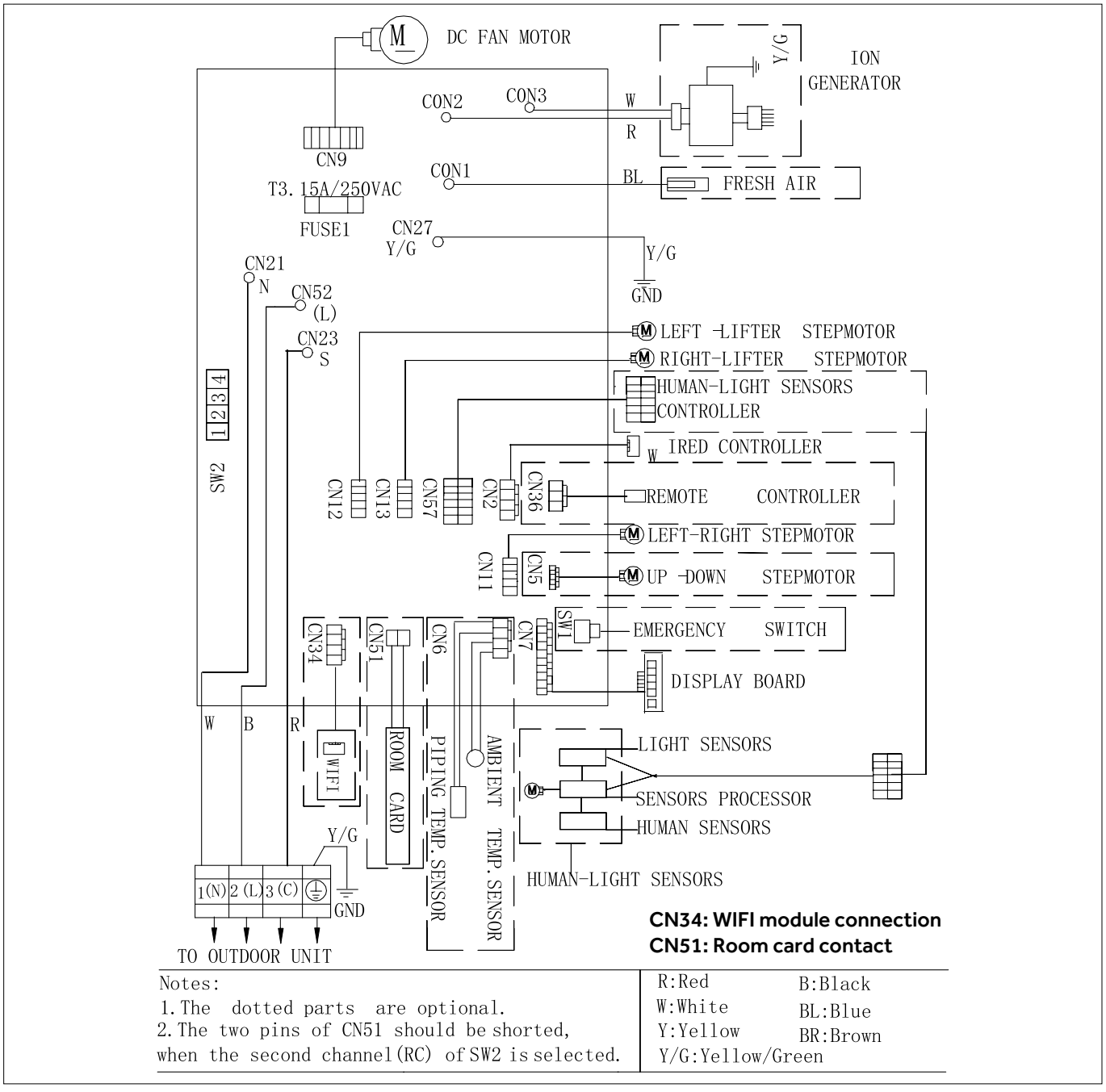
INDOOR UNIT	Model		AS20S2SD1FA	AS25S2SD1FA	AS35S2SD1FA	AS42S2SD1FA	AS50S2SD1FA
Indoor unit technical data							
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	9.52	9.52	12.7
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	650	650	700	700	900
Dimensions	WxDxH	mm	980x212x318	980x212x318	980x212x318	980x212x318	1113x230x343
Net weight		kg	11.8	11.8	11.8	11.8	15.5

DIAGNOSTICS 2.0 kW - 2.5 kW -3.5 kW - 4.2 kW - 5.0 kW

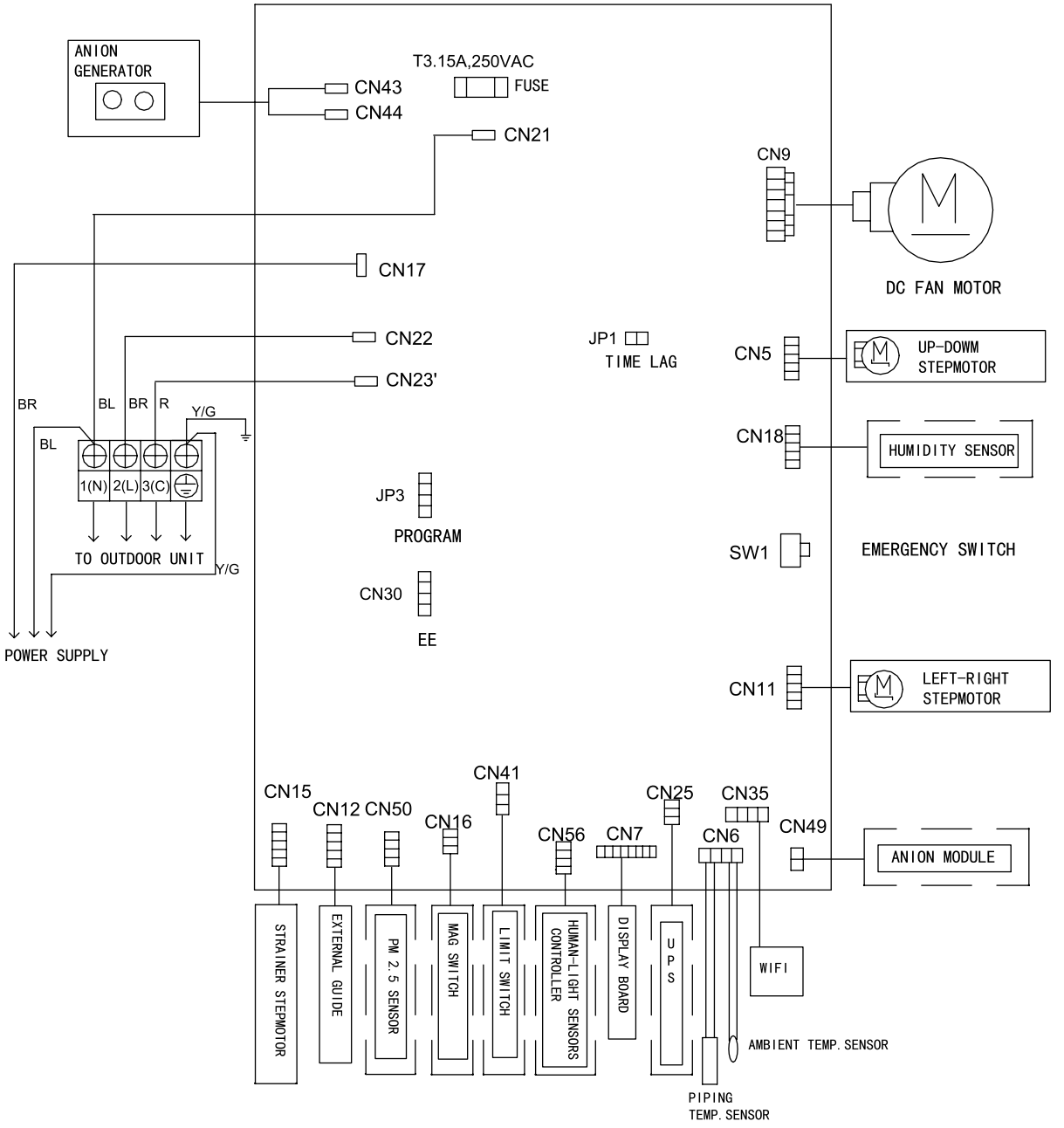
Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.0 kW - 2.5 kW -3.5 kW - 4.2 kW



IU CIRCUIT DIAGRAM 5.0 kW



CN35: WIFI module connection
CN51: Room card contact

NOTE:

1. The dotted parts are optional
2. Hazardous substance A should meet the relevant requirements of standard Q/TR 0603 001 and Q/HR 0603 003.

B	BLACK
R	RED
BR	BROWN
BL	BLUE
W	WHITE
Y/G	YELLOW/GREEN

INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

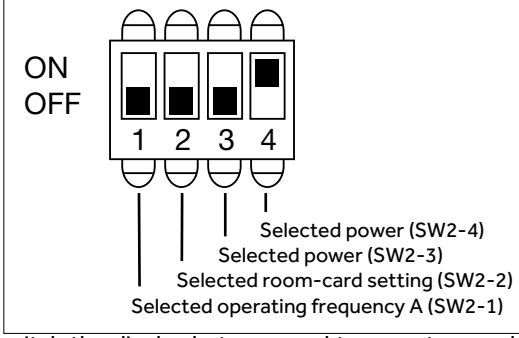
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

	5.0 kW	4.2 kW	3.5 kW	2.5 kW	2.0 kW
SW2-3	ON	ON	ON	OFF	OFF
SW2-4	ON	ON	ON	ON	ON

	DAWN
J1	ON
J2	ON

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

BLACK (MB)

AS20S2SF1FA-MB 2.0 kW **(multi only)** AS42S2SF1FA-MB 4.2 kW

AS25S2SF1FA-MB 2.5 kW AS50S2SF1FA-MB 5.0 kW

AS35S2SF1FA-MB 3.5 kW AS71S2SF1FA-MB 7.1 kW

WHITE (MW)

AS20S2SF1FA-MW 2.0 kW **(multi only)** AS42S2SF1FA-MW 4.2 kW

AS25S2SF1FA-MW 2.5 kW AS50S2SF1FA-MW 5.0 kW

AS35S2SF1FA-MW 3.5 kW AS71S2SF1FA-MW 7.1 kW

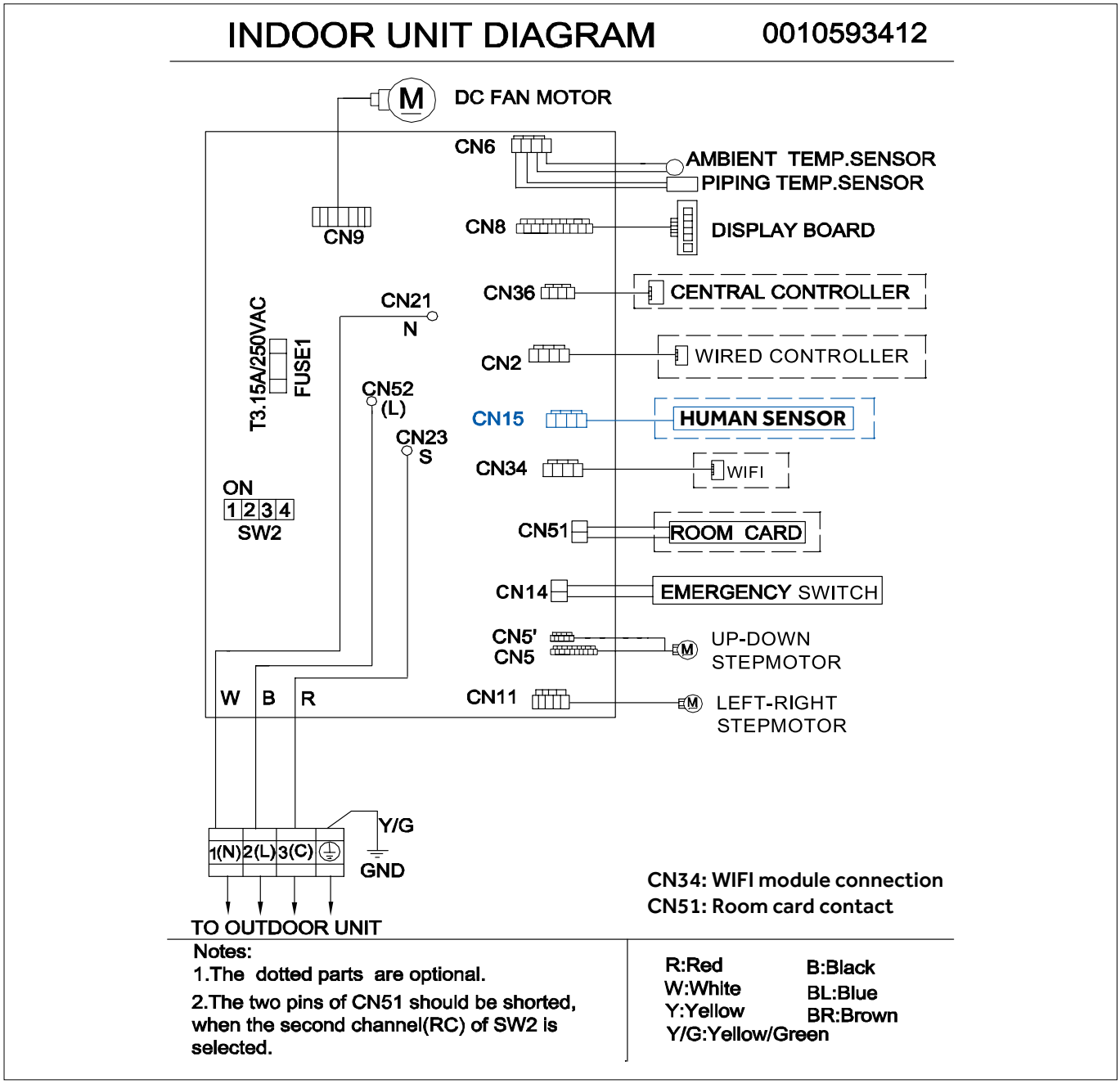
INDOOR UNIT	MODEL BLACK		AS20S2SF1FA-MB	AS25S2SF1FA-MB	AS35S2SF1FA-MB	AS42S2SF1FA-MB	AS50S2SF1FA-MB	AS71S2SF1FA-MB
INDOOR UNIT	Model WHITE		AS20S2SF1FA-MW	AS25S2SF1FA-MW	AS35S2SF1FA-MW	AS42S2SF1FA-MW	AS50S2SF1FA-MW	AS71S2SF1FA-MW
Indoor unit technical data								
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35	6.35	9.52
Gas pipe Ø		mm	9.52	9.52	9.52	9.52	12.7	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	600	600	650	900	900	1100
Dimensions	WxDxH	mm	866x196x300	866x196x300	866x196x300	866x191x300	1010x222x327	1126x232x343
Net weight		kg	9.5	9.5	9.5	9.5	11.9	15.2

DIAGNOSTICS 2.0 kW (multi only) - 2.5 kW - 3.5 kW - 4.2 kW - 5.0 kW - 7.1 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.0 kW (multi only) - 2.5 kW - 3.5 kW - 4.2 kW - 5.0 kW - 7.1 kW



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

Selecting the indoor unit capacity (SW2-3) and (SW2-4):

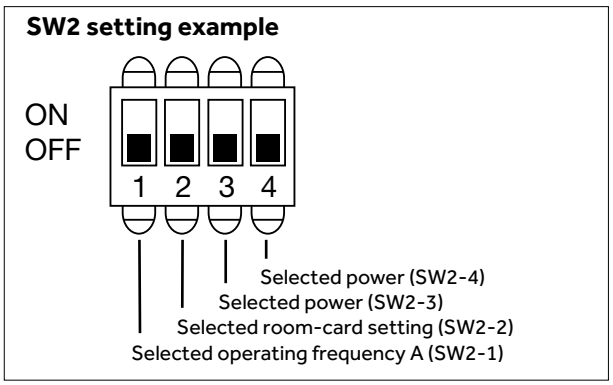
Using switches 3 and 4 you can select the capacity of the indoor unit:

	7.1 kW	5.0 kW	4.2 kW	3.5 kW	2.5 kW	2.0 kW
SW2-3	OFF	OFF	ON	OFF	OFF	OFF
SW2-4	ON	OFF	OFF	ON	OFF	OFF

Important: Cut the jumpers **J1**, **J2** on board depending on the split on which the electronic board will be installed. (already cut in factory depending on the model).
This procedure is essential in order for the main board to communicate correctly with the receiving display/board.

	FLEXIS
J1	OFF
J2	OFF

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

Activating/deactivating power-saving feature of the fan motor in cooling mode:
Directing the remote control to the indoor unit:

1. Press the "AUTO" button
2. Press the "HEALTH" button 6 times

The indoor unit will respond with 2 "BEEP" sounds and the echo function will be disabled.
The fan will always be in operation, even if the set ambient temperature is reached.

By repeating steps 1 and 2, the indoor unit will respond with 4 "BEEP" sounds and the echo function will be reactivated.
The fan will be stopped when the set ambient temperature is reached.

AS20S2SF2FA-1 2.0 kW **(multi only)**
AS25S2SF2FA-1 2.5 kW
AS35S2SF2FA-1 3.5 kW
AS42S2SF2FA-1 4.2 kW
AS50S2SF2FA-1 5.0 kW
AS71S2SF2FA-1 7.1 kW

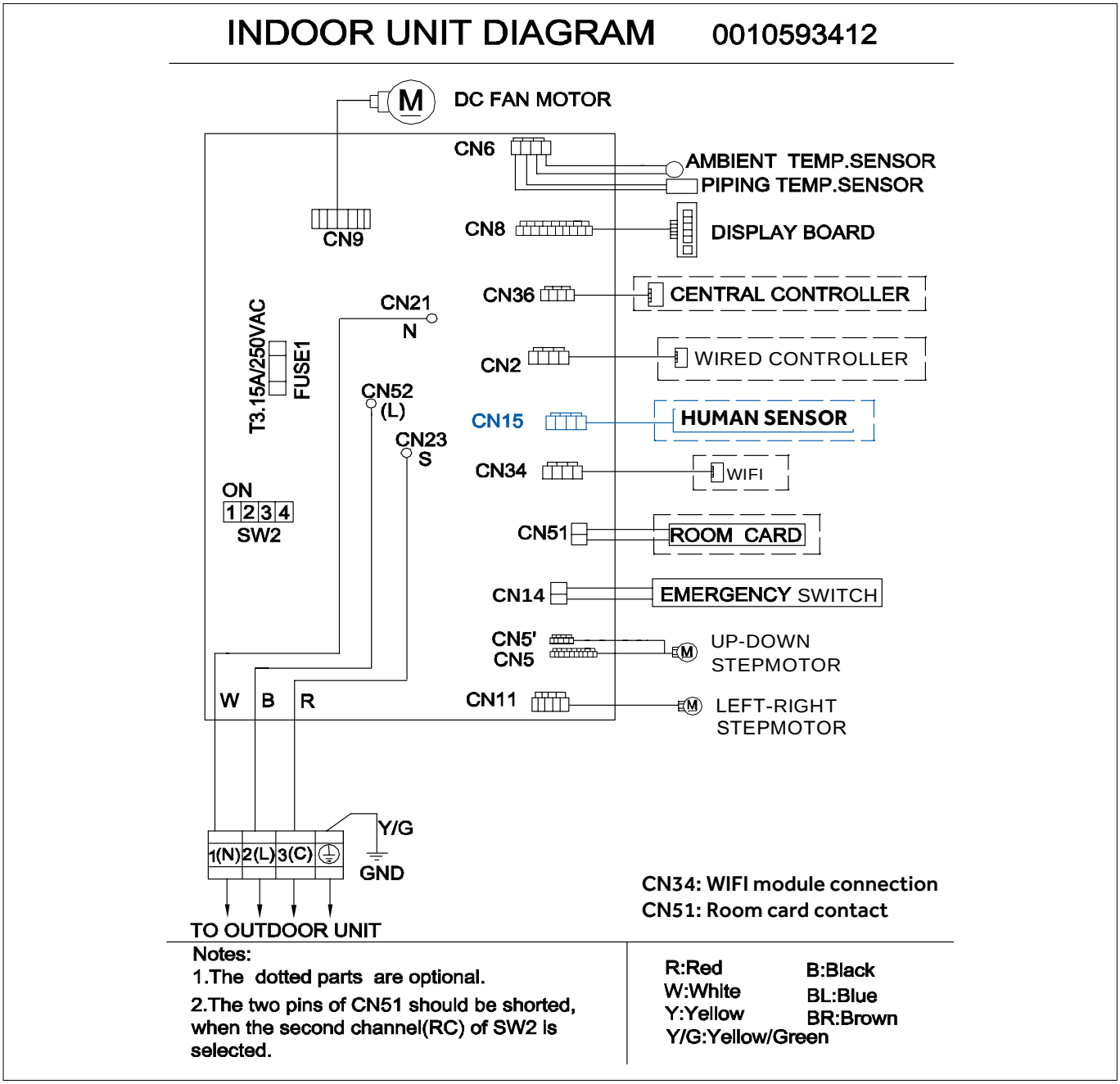
INDOOR UNIT	Model		AS20S2SF2FA-1	AS25S2SF2FA-1	AS35S2SF2FA-1	AS42S2SF2FA-1	AS50S2SF2FA-1	AS71S2SF2FA-1
Indoor unit technical data								
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35	6.35	9.52
Gas pipe Ø		mm	9.52	9.52	9.52	9.52	12.7	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	600	600	650	900	900	1100
Dimensions	WxDxH	mm	866x196x300	866x196x300	866x196x300	866x191x300	1010x222x327	1126x232x343
Net weight		kg	9.5	9.5	9.5	11.9	13.5	13.5

DIAGNOSTICS 2.0 kW (multi only) - 2.5 kW - 3.5 kW - 4.2 kW - 5.0 kW - 7.1 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.0 kW (multi only) - 2.5 kW - 3.5 kW - 4.2 kW - 5.0 kW - 7.1 kW



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

Selecting the indoor unit capacity (SW2-3) and (SW2-4):

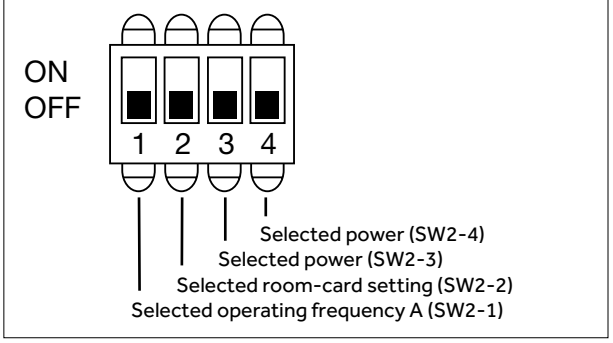
Using switches 3 and 4 you can select the capacity of the indoor unit:

	7.1 kW	5.0 kW	4.2 kW	3.5 kW	2.5 kW	2.0 kW
SW2-3	OFF	OFF	ON	OFF	OFF	OFF
SW2-4	ON	OFF	OFF	ON	OFF	OFF

Important: Cut the jumpers **J1**, **J2** on board depending on the split on which the electronic board will be installed. (already cut in factory depending on the model).
This procedure is essential in order for the main board to communicate correctly with the receiving display/board.

	FLAIR
J1	ON
J2	OFF

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

Activating/deactivating power-saving feature of the fan motor in cooling mode:
Directing the remote control to the indoor unit:

1. Press the "AUTO" button
2. Press the "HEALTH" button 6 times

The indoor unit will respond with 2 "BEEP" sounds and the echo function will be disabled.
The fan will always be in operation, even if the set ambient temperature is reached.

By repeating steps 1 and 2, the indoor unit will respond with 4 "BEEP" sounds and the echo function will be reactivated.
The fan will be stopped when the set ambient temperature is reached.

AS20TADHRA-1 2.0 kW **(multi only)**

AS25TADHRA-1 2.5 kW

AS35TADHRA-1 3.5 kW

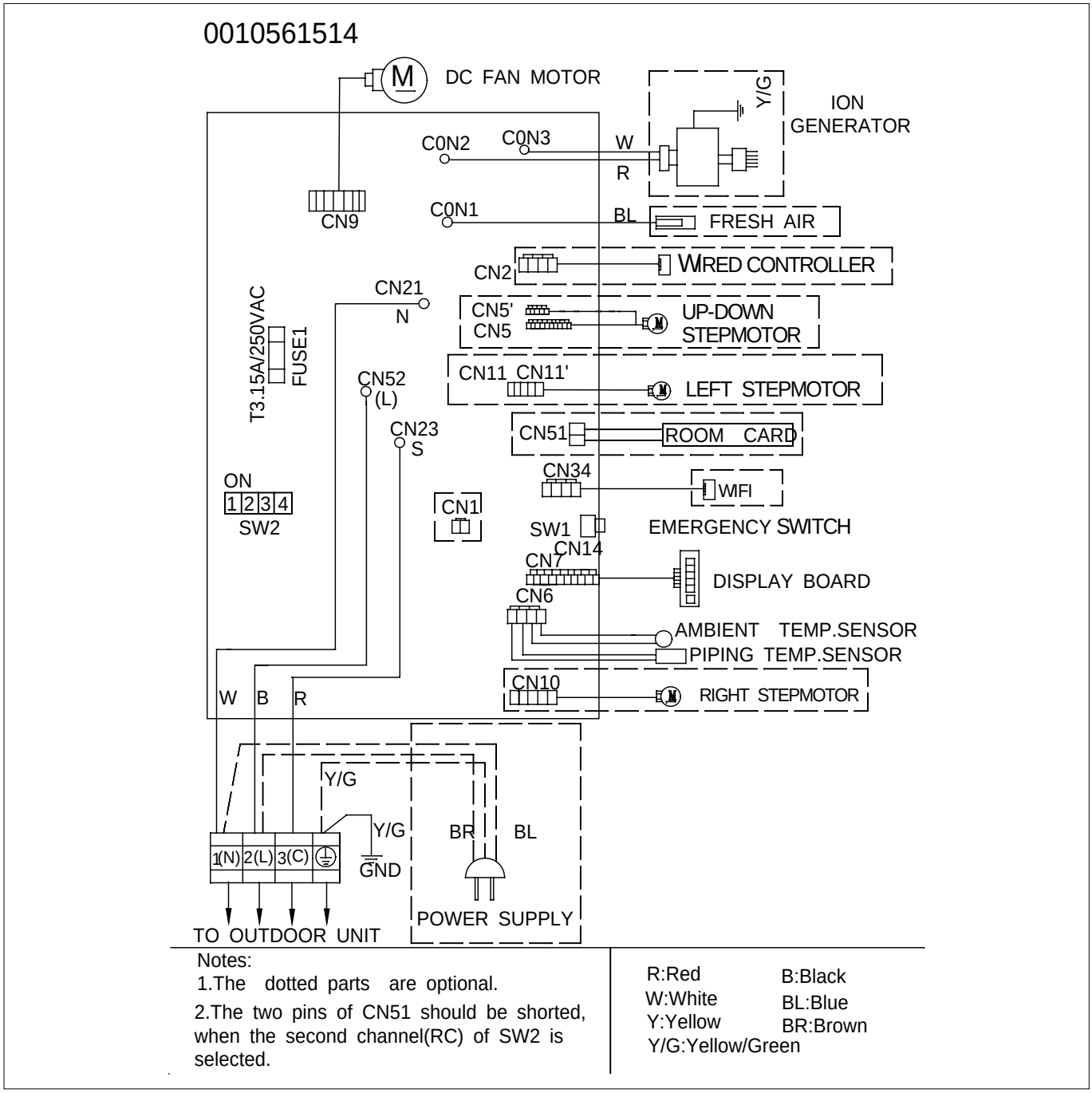
INDOOR UNIT	Model		AS20TADHRA-1	AS25TADHRA-1	AS35TADHRA-1
Indoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	9.52
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	500	500	550
Dimensions	WxDxH	mm	820x195x280	820x195x280	820x195x280
Net weight		kg	8.8	8.8	8.8

DIAGNOSTICS 2.0 kW (multi only) 2.0 kW - 2.5 kW - 3.5 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.0 kW (multi only) 2.0 kW - 2.5 kW - 3.5 kW



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

Selecting the indoor unit capacity (SW2-3) and (SW2-4):

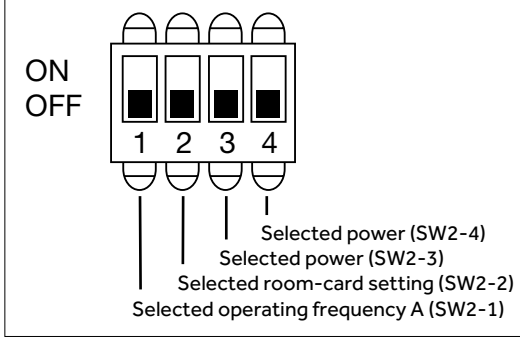
Using switches 3 and 4 you can select the capacity of the indoor unit:

	3.5 kW	2.5 kW	2.0 kW
SW2-3	OFF	OFF	OFF
SW2-4	ON	OFF	OFF

Important: Cut the jumpers **J1**, **J2** on board depending on the split on which the electronic board will be installed. (already cut in factory depending on the model).
This procedure is essential in order for the main board to communicate correctly with the receiving display/board.

	TUNDRA 2.0
J1	ON
J2	OFF
J3	ON

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

Activating/deactivating power-saving feature of the fan motor in cooling mode:
Directing the remote control to the indoor unit:

1. Press the "AUTO" button
2. Press the "HEALTH" button 6 times

The indoor unit will respond with 2 "BEEP" sounds and the echo function will be disabled.
The fan will always be in operation, even if the set ambient temperature is reached.

By repeating steps 1 and 2, the indoor unit will respond with 4 "BEEP" sounds and the echo function will be reactivated.
The fan will be stopped when the set ambient temperature is reached.

AF25S2SD1FA

AF35S2SD1FA

AF42S2SD1FA

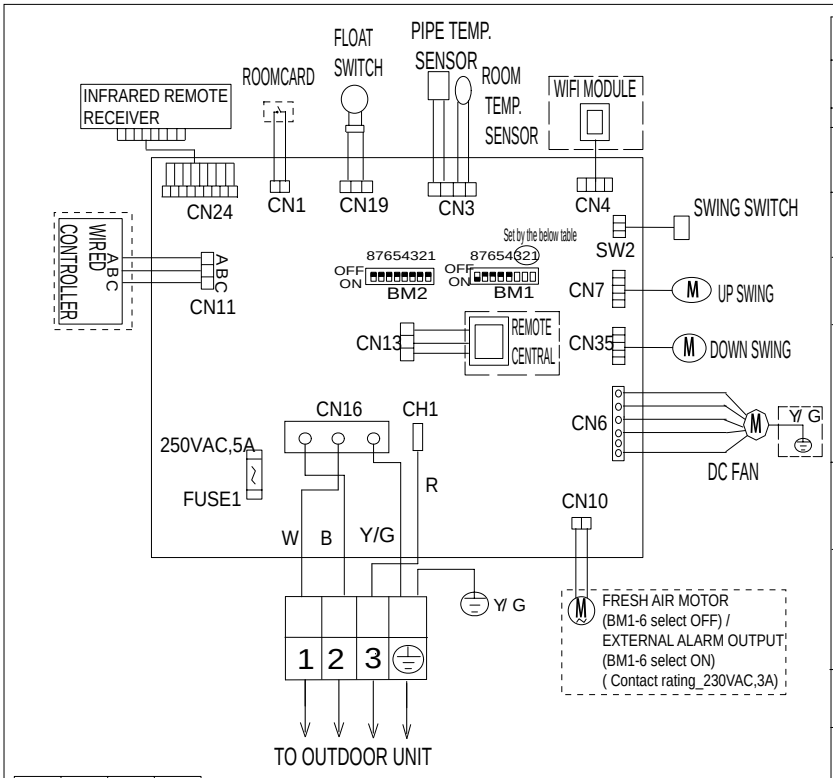
INDOOR UNIT	Model		AF25S2SD1FA	AF35S2SD1FA	AF42S2SD1FA
Indoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	9.52
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	450	500	580
Dimensions	WxDxH	mm	700x210x600	700x210x600	700x210x600
Net weight		kg	16.5	16.5	16.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 4.2 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 4.2 kW



BM1-1	BM1-2	BM1-3	BTU	
OFF	OFF	OFF	9000	AF25S2SD1FA
ON	OFF	OFF	12000	AF35S2SD1FA
OFF	ON	OFF	18000	AF42S2SD1FA
ON	ON	OFF	24000	
OFF	OFF	ON	28000	
ON	OFF	ON	36000	
OFF	ON	ON	48000	
ON	ON	ON	60000	

BM1-4	BM1-5	Room card
ON	OFF	Available
OFF	OFF	Unavailable

BM1-6	BM1-7	BM1-8	TYPE DEFINE
OFF	OFF	ON	Floor standing

NOTE 1.DASHED PART ARE OPTIONAL.
2. USER SHOULD NOT TO SET BM1 AND BM2.

R:RED
B:BLACK
W:WHITE
Y/G:YELLOW/GREEN

INDOOR UNIT TROUBLE SHOOTING

LED flash times of indoor PCB		Malfunction display	Contents of Malfunction	Possible reasons
LED6	LED1			
0	1	E1	Malfunction of indoor unit ambient temperature sensor	Sensor disconected,or broken,or at wrong position,or short circuit
0	2	E2	Malfunction of indoor unit piping temperature sensor	Sensor disconected, or broken,or at wrong position,or short circuit
0	4	E4	EEPROM wrong of indoor PCB	EEPROM chip disconected or broken or wrong programmed,or PCB broken
0	7	E7	Abnormal communication between indoor and outdoor units	Wrong connection,or the wires be disconected or wrong adress setting of indoor unit or faulty power supply or faulty PCB or slave unit malfunction in MAXI system
0	8	E8	Abnormal communication between wired controller and indoor unit	Wrong connection or wired controller broken,or PCB faulty
0	12	E10	Malfunction of drain system	Pump motor disconnected or at wrong position,or the float switch,disconnected, or at wrong position,or the short circuit bridge disconnected
0	13	C1	Zero cross sigal wrong	Zero cross sigal detected wrong
0	14	E14	Indoor unit DC fan motor abnormal	DC Fan motor disconnected or DC Fan broken or circuit broken

Note:
1.The outdoor failure can also be indicated by the indoor unit,the checking method as follows: LED6 flash times stands for tens digit,and LED1 flash times stands for units digit, use this bidigitate figure minus 20,then will get the outdoor error code.For example,if the outdoor error code is 15,LED6 will flash 3 times firstly,two seconds later,LED1 will flash 5 times , and four seconds later the process will repeat again.
2.LED6 is a green one on the indoor PCB,LED1 is a yellow one.
3.To get much more details about the out door unit failure,please refer to the outdoor unit trouble shooting list.

CN4: WIFI module connection

CN1/CN1_1: Room card connectors

INDOOR UNIT SETTING:

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	DESCRIPTION
OFF	OFF	OFF	---	---	---	---	---	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	---	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	---	CAPACITY 4.2 kW
---	---	---	ON	OFF	---	---	---	* Room card (enabled)
---	---	---	OFF	OFF	---	---	---	Room card (not enabled)
---	---	---	---	---	OFF	OFF	ON	Console

* Room card: The unit can only be started by remote control/wired controller if both the CN1 and CN1_1 connectors are closed. (When the bridges are closed the unit does not restart automatically. It must be turned on by the user)

AB25S2SC1FA 2.5 kW **(multi only)**

AB35S2SC1FA 3.5 kW

AB50S2SC1FA 5.0 kW

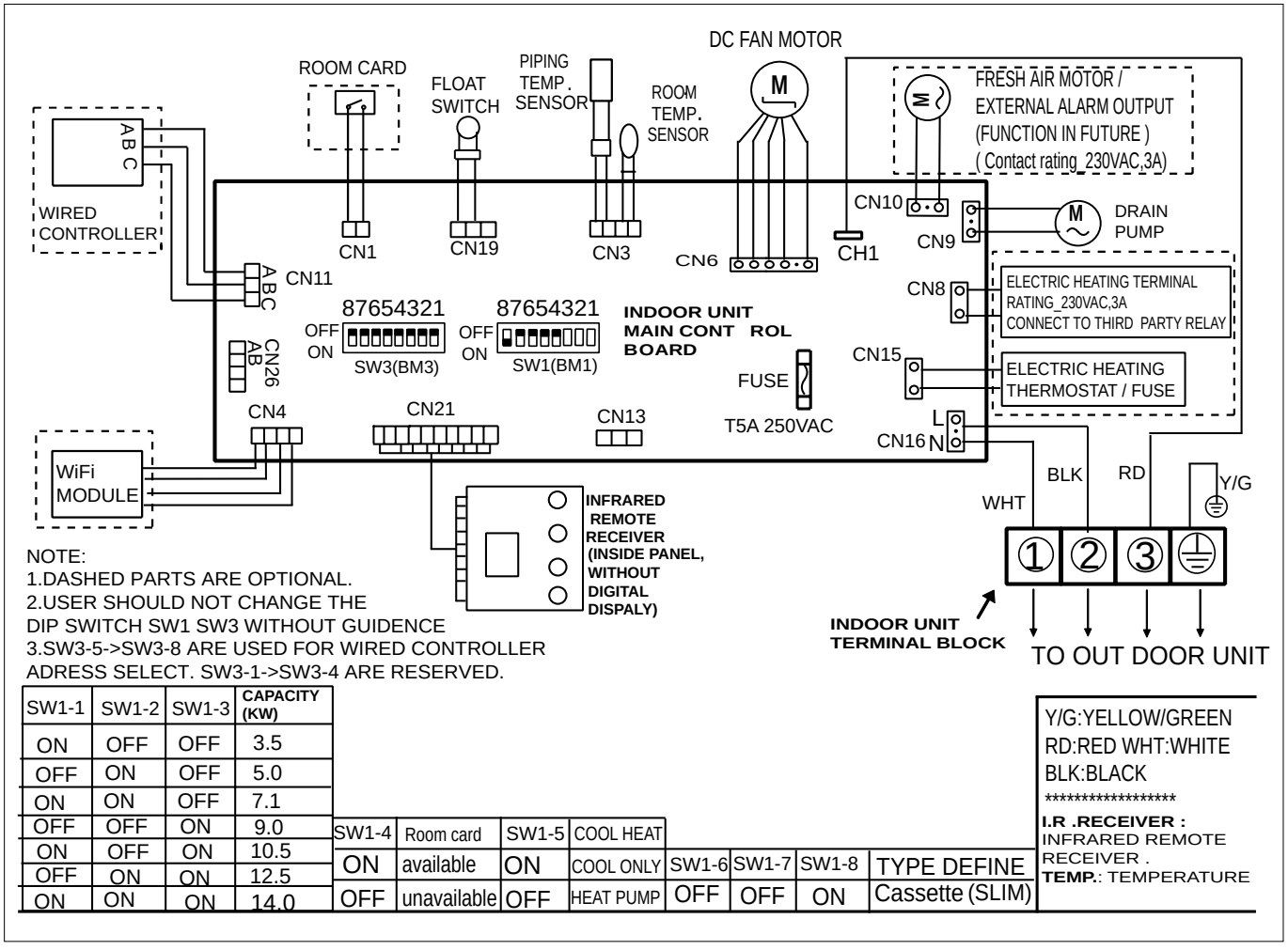
INDOOR UNIT	Model		AB25S2SC1FA	AB35S2SC1FA	AB50S2SC1FA
Indoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	510/450/390/330	620/520/420/350	700/600/500/400
Dimensions	WxDxH	mm	570x570x260	570x570x260	570x570x260
Net weight		kg	17	18.5	18.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW



SW1-1	SW1-2	SW1-3	CAPACITY (KW)
ON	OFF	OFF	3.5
OFF	ON	OFF	5.0
ON	ON	OFF	7.1
OFF	OFF	ON	9.0
ON	OFF	ON	10.5
OFF	ON	ON	12.5
ON	ON	ON	14.0

SW1-4	Room card	SW1-5	COOL HEAT
ON	available	ON	COOL ONLY
OFF	unavailable	OFF	HEAT PUMP

SW1-6	SW1-7	SW1-8	TYPE DEFINE
OFF	OFF	ON	Cassette (SLIM)

INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0 kW:
Switches Block BM1 (SW1)

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	DESCRIPTION
OFF	OFF	OFF	---	---	---	---	---	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	---	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	---	CAPACITY 5.0 kW
ON	ON	OFF						CAPACITY 7.1 kW
OFF	OFF	ON						CAPACITY 9.0 kW
ON	OFF	ON						CAPACITY 10.5 kW
OFF	ON	ON						CAPACITY 12.5 kW
ON	ON	ON						Power 14 kW
---	---	---	OFF	---	---	---	---	Room card with restart
---	---	---	ON	---	---	---	---	Room card without restart
---	---	---	---	OFF	---	---	---	Heat pump (default)
---	---	---	---	ON	---	---	---	Cooling-only
---	---	---	---	---	OFF	OFF	OFF	Cassette (default)

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0 kW:

Selecting the indoor unit capacity (BM1-1\2\3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table, you can set the capacity from 2.5 kW up to 5 kW.

Selecting the room-card (indoor unit activation board) (BM1-4):

Switch 4 selects how the room-card input (CN1) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in automatic mode at 24 °C. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (BM1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Select the unit type (BM1-6-7-8):

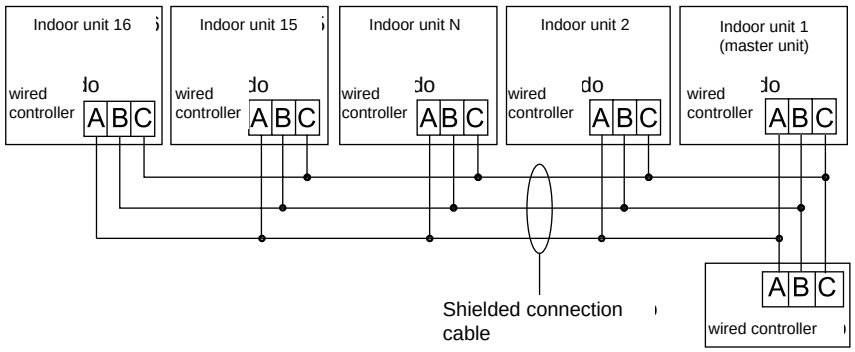
Selecting the unit type: By default, keep the switches as shown in the table.

BM3 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller.

SW3(BM3) 1=ON 0=OFF								
Not used				Wired Controller Address				Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
0	0	0	0	-	-	-	-	Not used
-	-	-	-	0	0	0	0	Master Unit
-	-	-	-	0	0	0	1	Slave address no. 1
-	-	-	-	0	0	1	0	Slave address no. 2
-	-	-	-	1	1	1	1	Slave address no. 15

You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



AB25S2SC2FA 2.5 kW **(multi only)**

AB35S2SC2FA 3.5 kW

AB50S2SC2FA 5.0 kW

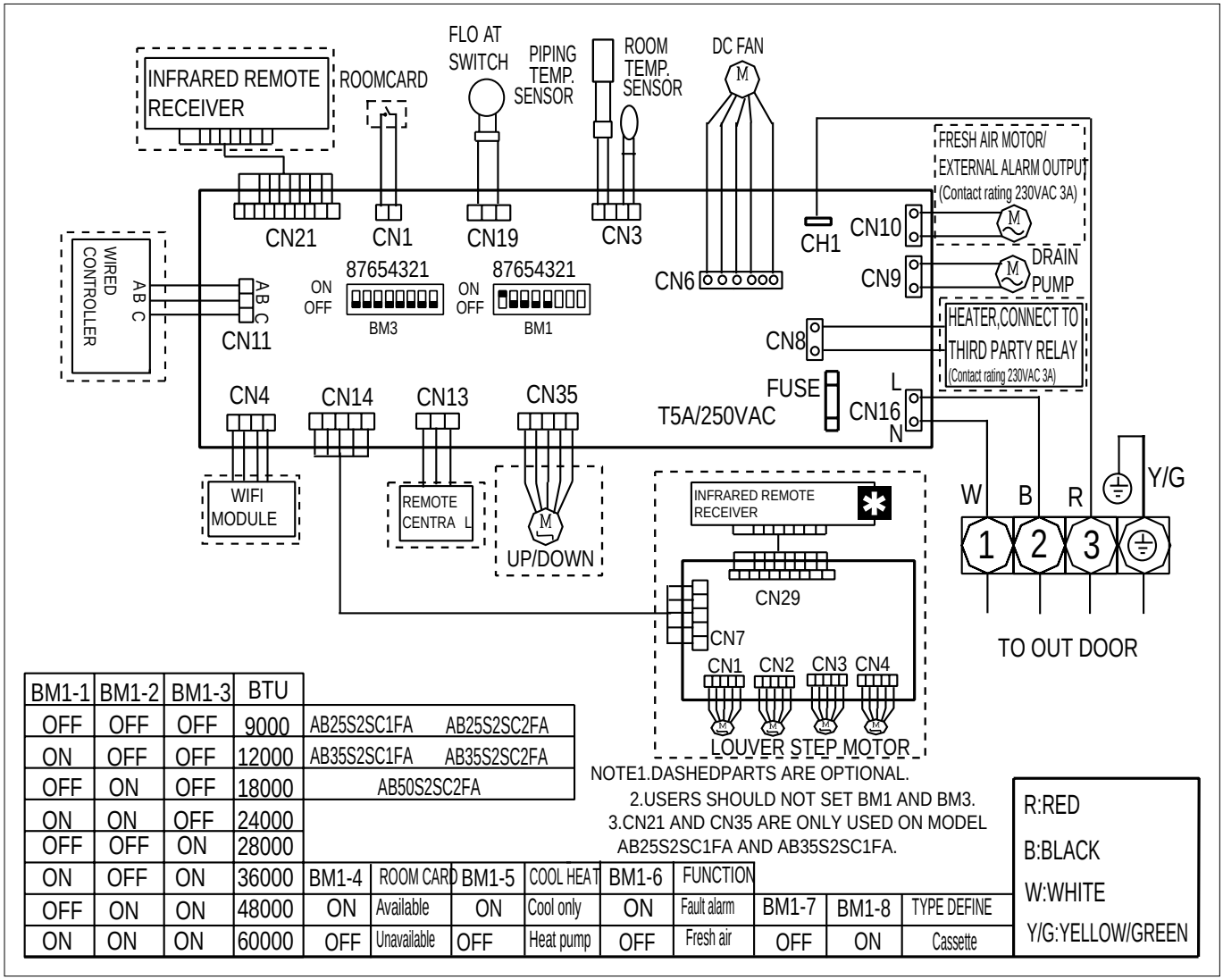
INDOOR UNIT	Model		AB25S2SC2FA	AB35S2SC2FA	AB50S2SC2FA
Indoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	510/450/390/330	620/520/420/350	700/600/500/400
Dimensions	WxDxH	mm	570x570x260	570x570x260	570x570x260
Net weight		kg	17	18.5	18.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW



BM1-1	BM1-2	BM1-3	BTU		
OFF	OFF	OFF	9000	AB25S2SC1FA	AB25S2SC2FA
ON	OFF	OFF	12000	AB35S2SC1FA	AB35S2SC2FA
OFF	ON	OFF	18000	AB50S2SC2FA	
ON	ON	OFF	24000		
OFF	OFF	ON	28000		
ON	OFF	ON	36000		
OFF	ON	ON	48000		
ON	ON	ON	60000		

BM1-4	ROOM CARD	BM1-5	COOL HEAT	BM1-6	FUNCTION	BM1-7	BM1-8	TYPE DEFINE
ON	Available	ON	Cool only	ON	Fault alarm			
OFF	Unavailable	OFF	Heat pump	OFF	Fresh air	OFF	ON	Cassette

NOTE1.DASHEDPARTS ARE OPTIONAL.
2.USERS SHOULD NOT SET BM1 AND BM3.
3.CN21 AND CN35 ARE ONLY USED ON MODEL AB25S2SC1FA AND AB35S2SC1FA.

R:RED
B:BLACK
W:WHITE
Y/G:YELLOW/GREEN

Important: For panel version (620) connect the receiver to the CN29 connector.

INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0 kW:
Switches Block BM1 (SW1)

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	DESCRIPTION
OFF	OFF	OFF	---	---	---	---	---	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	---	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	---	CAPACITY 5.0 kW
ON	ON	OFF						CAPACITY 7.1 kW
OFF	OFF	ON						CAPACITY 9.0 kW
ON	OFF	ON						CAPACITY 10.5 kW
OFF	ON	ON						CAPACITY 12.5 kW
ON	ON	ON						Power 14 kW
---	---	---	OFF	---	---	---	---	Room card with restart
---	---	---	ON	---	---	---	---	Room card without restart
---	---	---	---	OFF	---	---	---	Heat pump (default)
---	---	---	---	ON	---	---	---	Cooling-only
---	---	---	---	---	OFF	---	---	Fan running signal (CN5)
---	---	---	---	---	ON	---	---	Alarm Signal (CN5)
---	---	---	---	---	---	OFF	---	Filter cleanup timer disabled (Default)
---	---	---	---	---	---	ON	---	Filter cleanup timer enabled
---	---	---	---	---	---	---	OFF	Cassette (default)
---	---	---	---	---	---	---	---	
---	---	---	---	---	---	---	---	

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0 kW:

Selecting the indoor unit capacity (BM1-1\2\3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table, you can set the capacity from 2.5 kW up to 5 kW.

Selecting the room-card (indoor unit activation board) (BM1-4):

Switch 4 selects how the room-card input (CN1) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in automatic mode at 24 °C. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (BM1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Select the unit type (BM1-6):

If set to "**OFF**" a IU fan running signal will be given in the CN5 connector (220VAC) (the signal will be present at ON/OFF intervals of 20-minute). If set to "**ON**" a signal will be given in case of generic alarm on the CN5 connector (220VAC)

Select the unit type (BM1-7):

Filter Cleanup Timer,"**OFF**" Disabled, "**ON**" Enabled

Select the unit type (BM1-8):

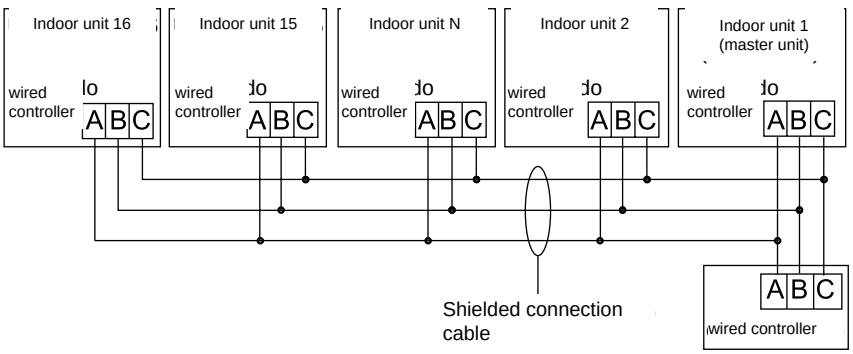
Selecting the cassette model (default)

BM3 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller.

SW3(BM3) 1=ON 0=OFF								
Not used				Wired Controller Address				Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
0	0	0	0	-	-	-	-	Not used
-	-	-	-	0	0	0	0	Master unit
-	-	-	-	0	0	0	1	Slave address no. 1
-	-	-	-	0	0	1	0	Slave address no. 2
-	-	-	-	1	1	1	1	Slave address no. 15

You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



AB71S2SG1FA 7.1 kW

ABH090H1ERG 9.0 kW

ABH105H1ERG 10.5 kW

ABH125K1ERG 12.5 kW

ABH140K1ERG 14.0 kW

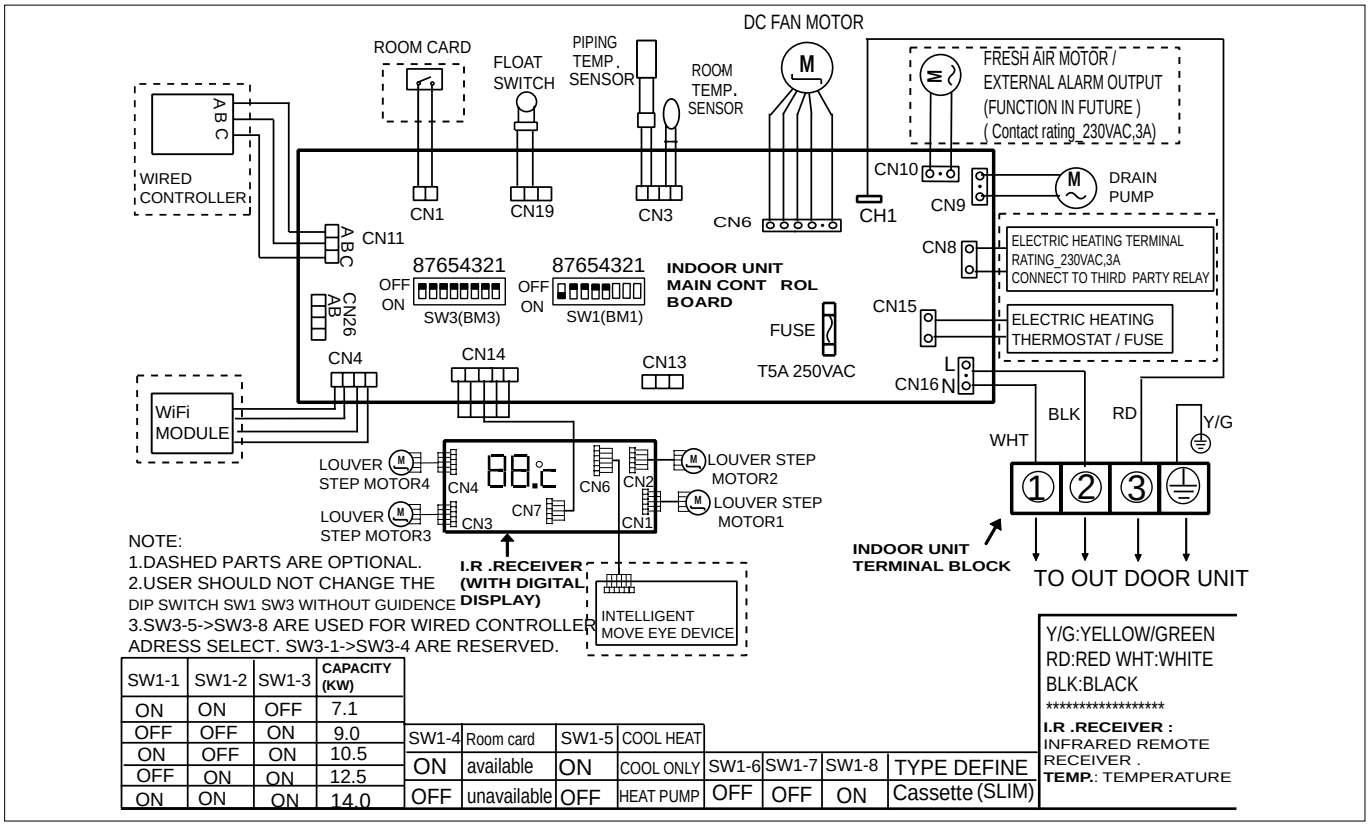
INDOOR UNIT	Model		AB71S2SG1FA	ABH090H1ERG	ABH105H1ERG	ABH125K1ERG	ABH140K1ERG
COMPATIBLE UNITS R32 / R410A			I	R410A only	I	I	I
Indoor unit technical data							
Liquid pipe Ø		mm	9.52	9.52	9.52	9.52	9.52
Gas pipe Ø		mm	15.88	15.88	15.88	15.88	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	1260/1070/820/680	1470/1260/1050/940	1680/1530/1320/1190	1950/1600/1440/1200	1950/1600/1440/1200
Dimensions	WxDxH	mm	860x308x730	860x308x730	948x340x840	1008x410x830	1008x410x830
Net weight		kg	49	50.2	64	82	91

DIAGNOSTICS 7.1 kW - 9.0 kW - 10.5 kW - 12.5 kW - 14.0 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 7.1 kW



SW1-1	SW1-2	SW1-3	CAPACITY (KW)
ON	ON	OFF	7.1
OFF	OFF	ON	9.0
ON	OFF	ON	10.5
OFF	ON	ON	12.5
ON	ON	ON	14.0

SW1-4	Room card	SW1-5	COOL HEAT
ON	available	ON	COOL ONLY
OFF	unavailable	OFF	HEAT PUMP

SW1-6	SW1-7	SW1-8	TYPE DEFINE
OFF	OFF	ON	Cassette (SLIM)

INDOOR UNIT SETTINGS 7.1 kW:

Switches Block BM1

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	DESCRIPTION
OFF	OFF	OFF	---	---	---	---	---	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	---	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	---	CAPACITY 5.0 kW
ON	ON	OFF						CAPACITY 7.1 kW
OFF	OFF	ON						CAPACITY 9.0 kW
ON	OFF	ON						CAPACITY 10.5 kW
OFF	ON	ON						CAPACITY 12.5 kW
ON	ON	ON						Power 14 kW
---	---	---	OFF	---	---	---	---	Room card with restart
---	---	---	ON	---	---	---	---	Room card without restart
---	---	---	---	OFF	---	---	---	Heat pump (default)
---	---	---	---	ON	---	---	---	Cooling-only
---	---	---	---	---	OFF	OFF	ON	Cassette (default)

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

INDOOR UNIT SETTINGS 7.1 kW:

Selecting the indoor unit capacity (BM1-1\2\3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table, you can set the capacity from 2.5 kW up to 5 kW.

Selecting the room-card (indoor unit activation board) (BM1-4):

Switch 4 selects how the room-card input (CN1) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in automatic mode at 24 °C. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (BM1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Select the unit type (BM1-6-7-8):

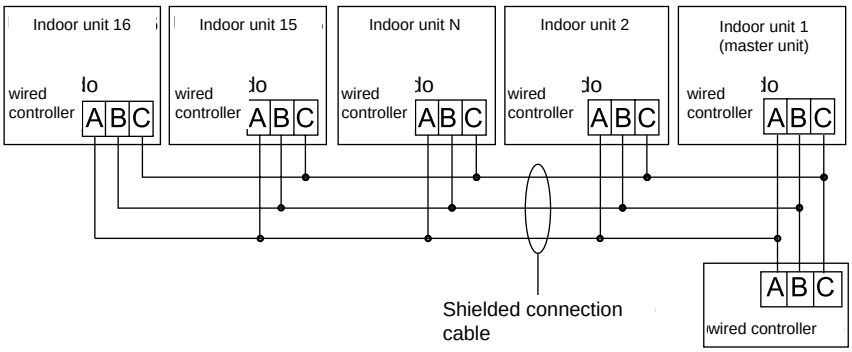
Selecting the unit type: By default, keep the switches as shown in the table.

BM3 UNIT ADDRESS FOR WIRED CONTROLLER

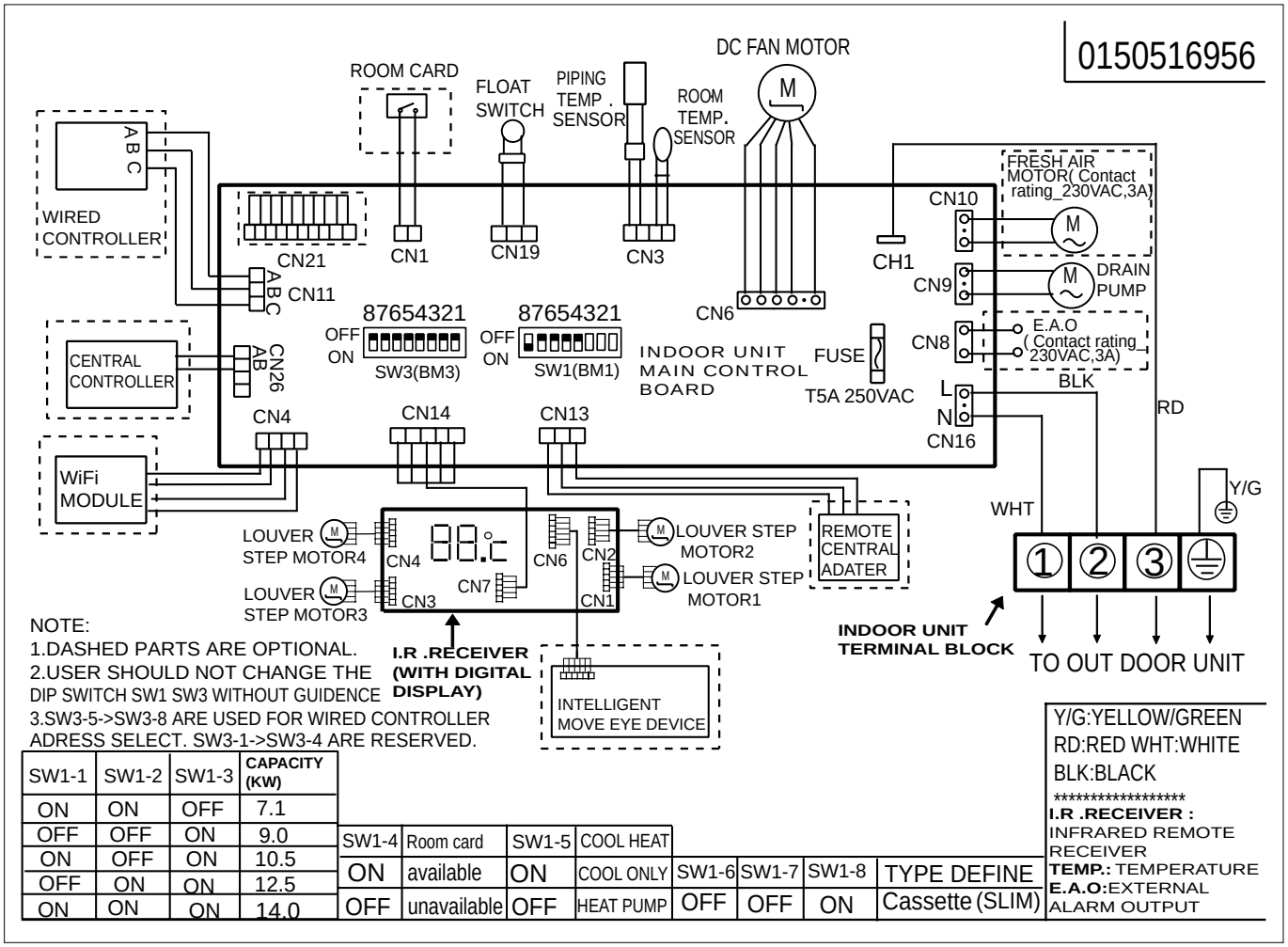
Addresses for communication of multiple units with a single wired controller.

SW3(BM3) 1=ON 0=OFF								
Not used				Wired Controller Address				Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
0	0	0	0	-	-	-	-	Not used
-	-	-	-	0	0	0	0	Master Unit
-	-	-	-	0	0	0	1	Slave address no. 1
-	-	-	-	0	0	1	0	Slave address no. 2
-	-	-	-	1	1	1	1	Slave address no. 15

You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



IU CIRCUIT DIAGRAM 9.0 KW - 10.5 KW - 12.5 KW - 14 KW



SW1-1	SW1-2	SW1-3	CAPACITY (KW)
ON	ON	OFF	7.1
OFF	OFF	ON	9.0
ON	OFF	ON	10.5
OFF	ON	ON	12.5
ON	ON	ON	14.0

SW1-4	Room card	SW1-5	COOL HEAT
ON	available	ON	COOL ONLY
OFF	unavailable	OFF	HEAT PUMP

SW1-6	SW1-7	SW1-8	TYPE DEFINE
OFF	OFF	ON	Cassette (SLIM)

IU SETTINGS 9.0 kW - 10.5 kW - 12.5 kW - 14 kW

SW1(BM1) 1=ON 0=OFF								
Power (SW1-1 / SW1-3)			Room card	Cooling only / Heat pump	Enabling feature SMART FOLLOW			Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
1	1	0	-	-	-	-	-	CAPACITY 7.1 kW
0	0	1	-	-	-	-	-	CAPACITY 9.0 kW
1	0	1	-	-	-	-	-	CAPACITY 10.5 kW
0	1	1	-	-	-	-	-	CAPACITY 12.5 kW
1	1	1	-	-	-	-	-	CAPACITY 14.0 kW
-	-	-	0	-	-	-	-	Room card with restart
-	-	-	1	-	-	-	-	Room card without restart
-	-	-	-	0	-	-	-	Heat pump
-	-	-	-	1	-	-	-	Cooling-only
-	-	-	-	-	0	0	1	Cassette (default)

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

SW3(BM3) 1=ON 0=OFF								
Not used				Wired Controller Address				Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
0	0	0	0	-	-	-	-	Not used
-	-	-	-	0	0	0	0	Master Unit
-	-	-	-	0	0	0	1	Slave address no. 1
-	-	-	-	0	0	1	0	Slave address no. 2
-	-	-	-	1	1	1	1	Slave address no. 15

AB28ES1ERA(S) (28K)

AB36ES1ERA(S) (36K)

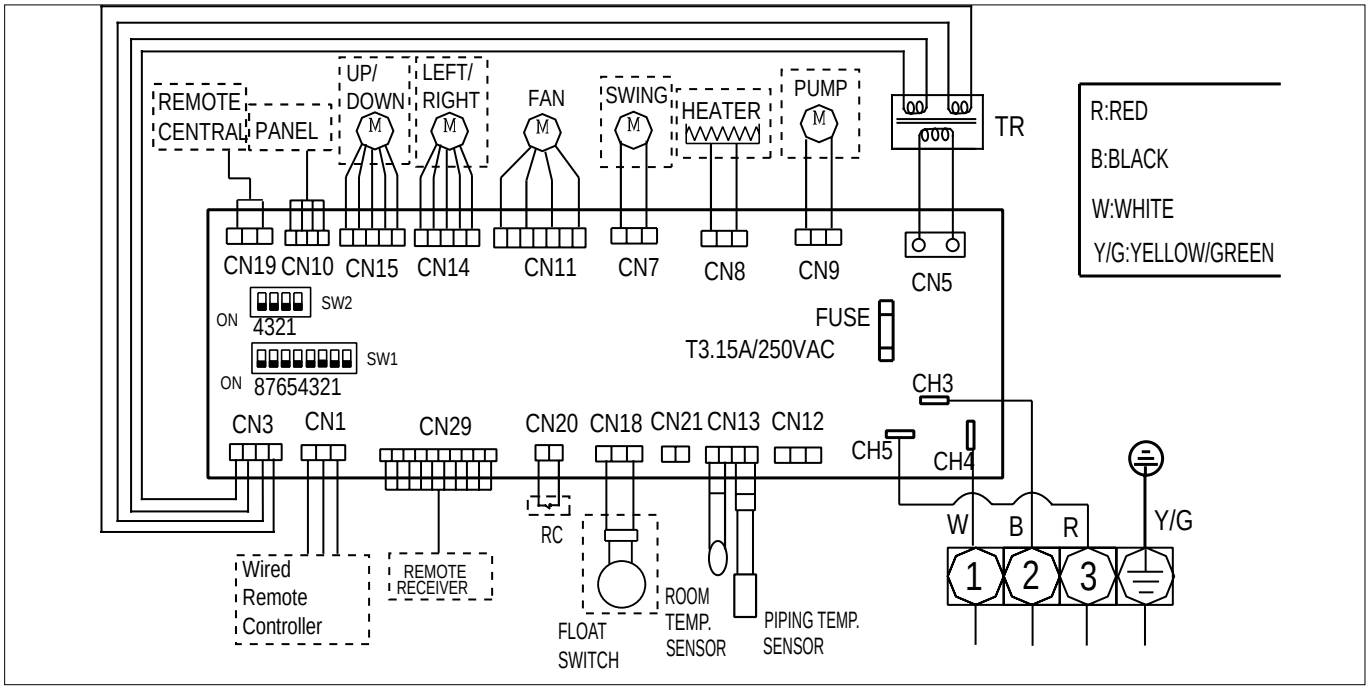
INDOOR UNIT	Model		**AB28ES1ERA(S)**	**AB36ES1ERA(S)**
Indoor unit technical data				
Liquid pipe Ø		mm	9.52	9.52
Gas pipe Ø		mm	15.88	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Treated air volume		m^3/h	1300/1100/870	1650/1450/1300
Dimensions	WxDxH	mm	840x840x240	840x840x290
Net weight		kg	25.5	31

IU DIAGNOSTICS 28K - 36K

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 93

IU CIRCUIT DIAGRAM 28K - 36K



INDOOR UNIT SETTING 28K - 36K

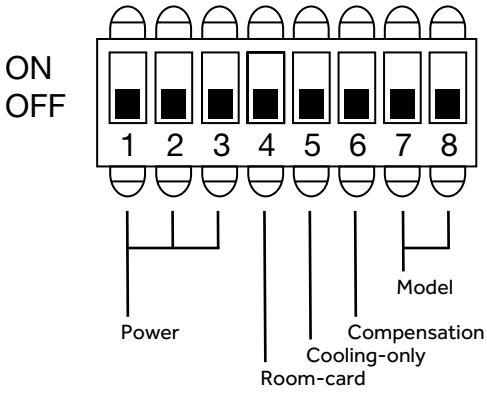
Table 1

SW1	CAPACITY Btu
ON OFF 1 2 3 4 5 6 7 8	7000
ON OFF 1 2 3 4 5 6 7 8	9000
ON OFF 1 2 3 4 5 6 7 8	12000
ON OFF 1 2 3 4 5 6 7 8	14000
ON OFF 1 2 3 4 5 6 7 8	18000
ON OFF 1 2 3 4 5 6 7 8	24000
ON OFF 1 2 3 4 5 6 7 8	28000
ON OFF 1 2 3 4 5 6 7 8	36000

Table 2

SW1	MODEL
ON OFF 1 2 3 4 5 6 7 8	Cassette
ON OFF 1 2 3 4 5 6 7 8	Ceiling/Floor Convertible ≤ 24000 Btu
ON OFF 1 2 3 4 5 6 7 8	Ducted
ON OFF 1 2 3 4 5 6 7 8	Ceiling/Floor Convertible > 24000 Btu

SW1



Note:
Always check to set the respective capacity shown in the rating plate data of the indoor unit.

Selecting the indoor unit capacity (SW1-1-2-3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table**1**, you can set the capacity from 7000 to 36000 Btu.

Selecting the room-card (indoor unit activation board) (SW1-4):

Switch 4 selects how the room-card input (CN20) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (SW1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Ambient sensor reading compensation (SW1-6):

Using switch 6 you can select whether to apply a compensation for the ambient sensor of the indoor unit in heating mode, so as to compensate for any differences with respect to the temperature measured at "man height".

OFF compensation disabled

ON Compensation enabled (+4°C)

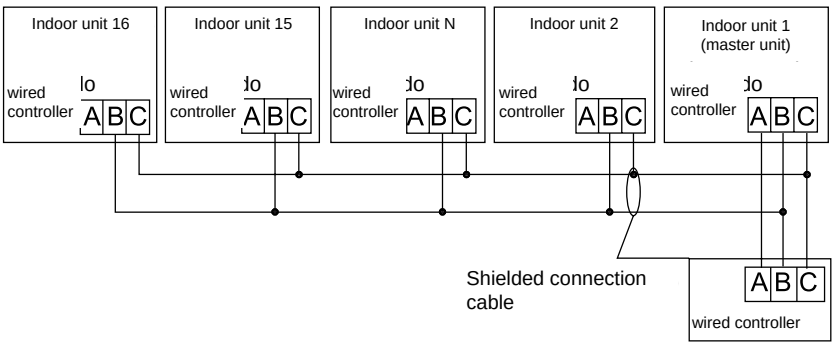
This function is disabled for units that use wired controller (e.g. ducted units).

Selecting the indoor unit model (SW1-7-8):

Using switches 7 and 8 and the combinations shown in Table **2**, you can select the model of the installed indoor unit amongst the Cassette, Ceiling / Floor Convertible and Ducted models.

SW2 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller. You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:

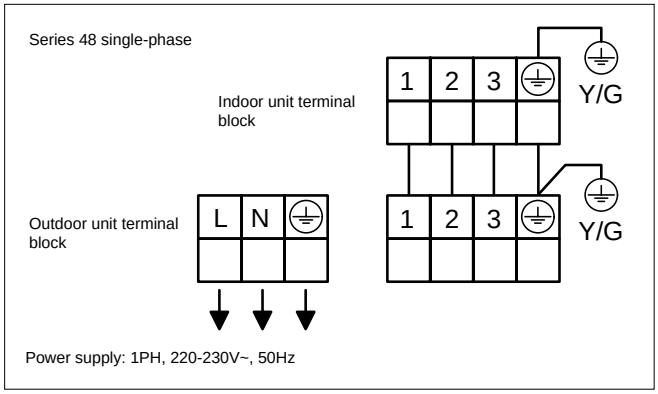


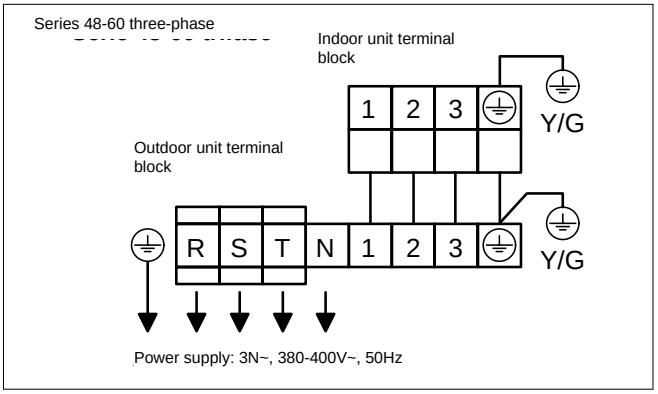
SW2	
master unit	ON OFF 1 2 3 4
slave unit 1	ON OFF 1 2 3 4
slave unit 2	ON OFF 1 2 3 4
slave unit 3	ON OFF 1 2 3 4
.....	ON OFF 1 2 3 4
slave unit 15	ON OFF 1 2 3 4

AB48ES1ERA(S) (48K)

AB60CS2ERA(S) (60K)

WIRING DIAGRAM 48K - 60K





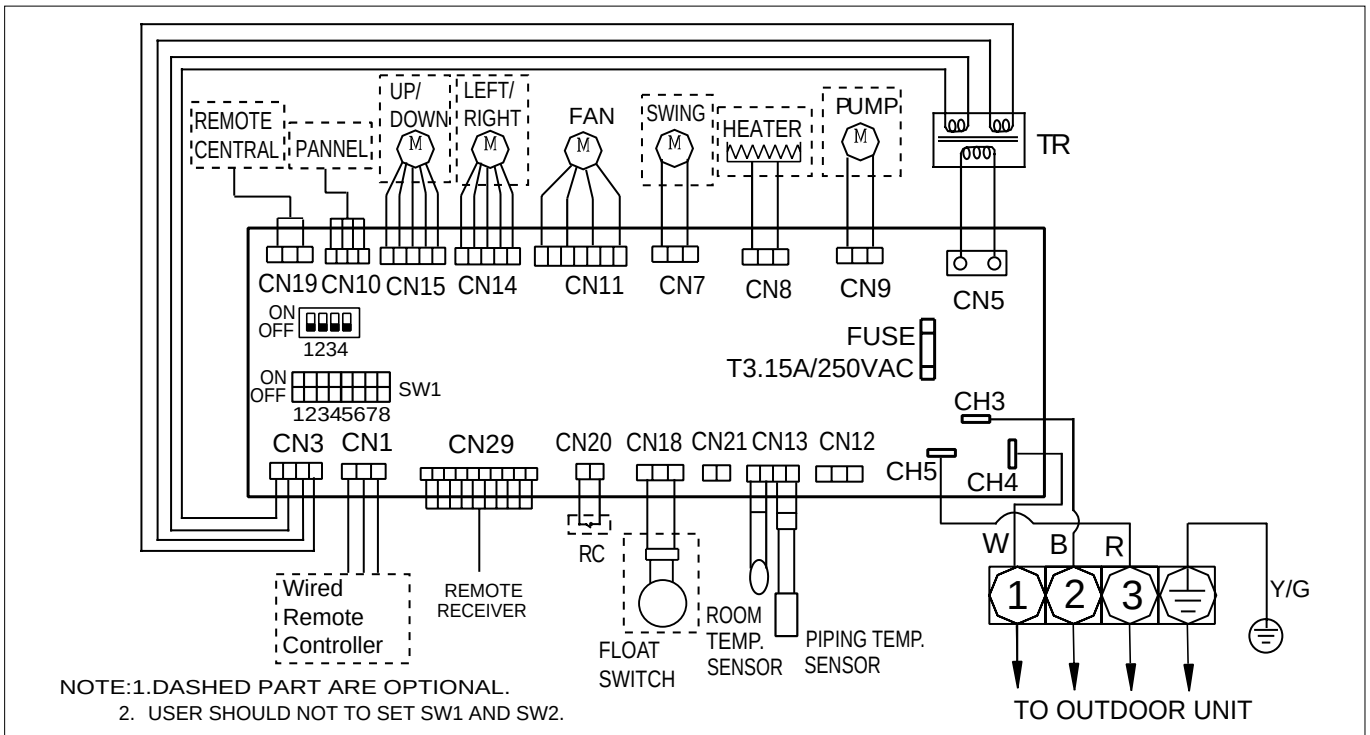
INDOOR UNIT	Model		AB48ES1ERA(S)	AB60ES2ERA(S)
Indoor unit technical data				
Liquid pipe Ø		mm	9.52	9.52
Gas pipe Ø		mm	19.05	19.05
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Treated air volume		m³/h	4200	6000
Dimensions	WxDxH	mm	1008x410x830	948x340x1250
Net weight		kg	82	91

IU DIAGNOSTICS 48K - 60K

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO INVERTER outdoor units, go to page 97

IU CIRCUIT DIAGRAM 48K - 60K



NOTE:1.DASHED PART ARE OPTIONAL.
2. USER SHOULD NOT TO SET SW1 AND SW2.

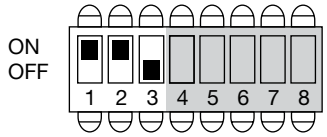
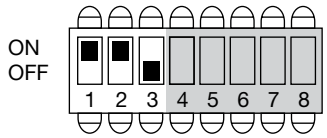
SW1-1	SW1-2	SW1-3	BTU
OFF	ON	ON	28000
ON	ON	ON	36000
ON	ON	OFF	48000
ON	ON	OFF	60000

SW1-7	SW1-8	Type define
OFF	OFF	Cassette
ON	ON	Convertible
ON	OFF	Duct
OFF	ON	Floor standing

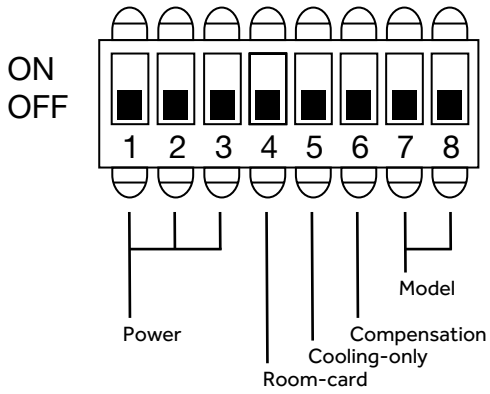
SW1-4	ON	room card available
	OFF	room card unavailable
SW1-5	ON	cool only
	OFF	heat pump
SW1-6	ON	With temperature compensate
	OFF	No temperature compensate

R:RED
B:BLACK
W:WHITE
Y/G:YELLOW/GREEN

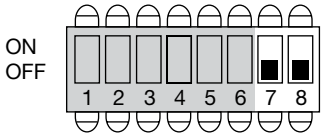
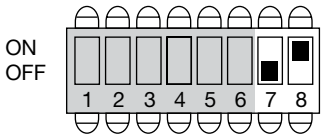
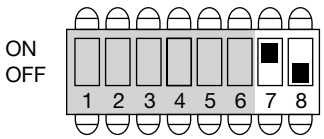
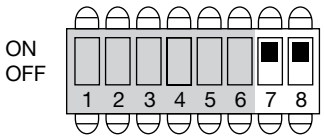
IU SETTINGS 48K - 60K

Table 1	
SW1	**CAPACITY Btu**
	48000
	60000

SW1



Note:
Always check to set the respective capacity shown in the rating plate data of the indoor unit.

Table 2	
SW1	**MODEL**
	Cassette
	Ceiling/Floor Convertible ≤ 24000 Btu
	Ducted
	Ceiling/Floor Convertible > 24000 Btu

Selecting the indoor unit capacity (SW1-1-2-3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table**1**, you can set the capacity from 7000 to 36000 Btu.

Selecting the room-card (indoor unit activation board) (SW1-4):

Switch 4 selects how the room-card input (CN20) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (SW1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Ambient sensor reading compensation (SW1-6):

Using switch 6 you can select whether to apply a compensation for the ambient sensor of the indoor unit in heating mode, so as to compensate for any differences with respect to the temperature measured at "man height".

OFF compensation disabled

ON Compensation enabled (+4°C)

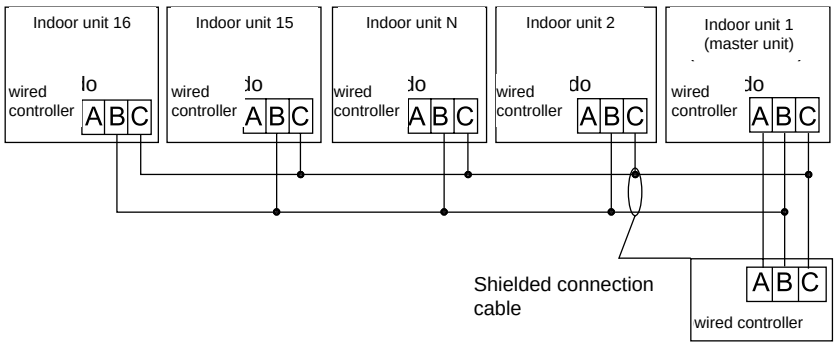
This function is disabled for units that use wired controller (e.g. ducted units).

Selecting the indoor unit model (SW1-7-8):

Using switches 7 and 8 and the combinations shown in Table **2**, you can select the model of the installed indoor unit amongst the Cassette, Ceiling / Floor Convertible and Ducted models.

SW2 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller. You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



SW2	
master unit	ON OFF 1 2 3 4
slave unit 1	ON OFF 1 2 3 4
slave unit 2	ON OFF 1 2 3 4
slave unit 3	ON OFF 1 2 3 4
.....	ON OFF 1 2 3 4
slave unit 15	ON OFF 1 2 3 4

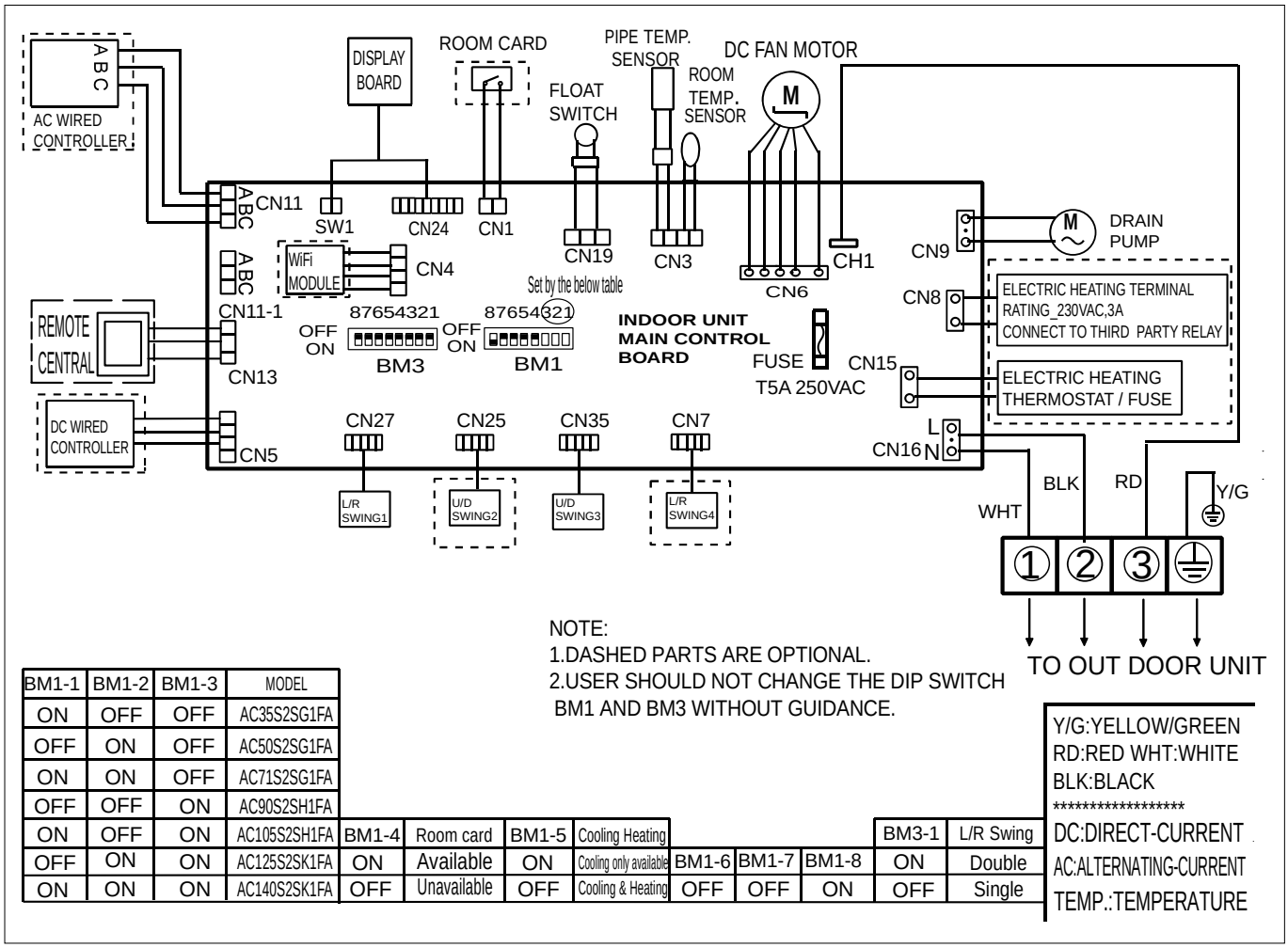
AC35S2SG1FA 3.5 kW
AC50S2SG1FA 5.0 kW
AC71S2SG1FA 7.1 kW
AC1052S2SH1FA 10.5 kW
AC1252S2SK1FA 12.5 kW
AC1402S2SK1FA 14.0 kW

INDOOR UNIT	Model		AC35S2SG1FA	AC50S2SG1FA	AC71S2SG1FA	AC105S2SH1FA	AC125S2SK1FA	AC1402S2SK1FA
COMPATIBLE UNITS R32 / R410A			only R32	only R32	I	I	I	I
Indoor unit technical data								
Liquid pipe Ø		mm	6.35	6.35	6.35	9.52	9.52	9.52
Gas pipe Ø		mm	9.52	9.52	12.7	15.88	15.88	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	750/620/500/400	880/750/650/500	1250/1128/930/840	1600/1400/1280/1160	2050/1900/1600/1400	2150/1980/1800/1600
Dimensions	WxDxH	mm	1000x230x680	1000x230x680	1325x230x680	1325x230x680	1650x230x680	1650x230x680
Net weight		kg	26	26	33	33	44	44

DIAGNOSTICS 3.5 kW - 5.0 kW - 7.1 kW - 10.5 kW - 12.5 kW - 14.0 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.
- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 3.5 kW - 5.0 kW - 7.1 kW - 10.5 kW - 12.5 kW - 14.0 kW



BM1-1	BM1-2	BM1-3	MODEL
ON	OFF	OFF	AC35S2SG1FA
OFF	ON	OFF	AC50S2SG1FA
ON	ON	OFF	AC71S2SG1FA
OFF	OFF	ON	AC90S2SH1FA
ON	OFF	ON	AC105S2SH1FA
OFF	ON	ON	AC125S2SK1FA
ON	ON	ON	AC140S2SK1FA

BM1-4	Room card	BM1-5	Cooling Heating
ON	Available	ON	Cooling only available
OFF	Unavailable	OFF	Cooling & Heating

BM1-6	BM1-7	BM1-8
OFF	OFF	ON

BM3-1	L/R Swing
ON	Double
OFF	Single

INDOOR UNIT SETTINGS:

BM1-1	BM1-2	BM1-3	Indoor unit power
ON	OFF	OFF	3.5 kW
OFF	ON	OFF	4.2 kW
ON	ON	OFF	7.1 kW
OFF	OFF	ON	9.0 kW
ON	OFF	ON	10.5 kW
OFF	ON	ON	12.5 kW
ON	ON	ON	14 kW

BM1-4			Enabling the Room-Card
ON			* Enabled
OFF			** Disabled

BM1-5			Cooling-only mode
ON			Cooling-only
OFF			Cooling & heat pump

BM1-6	BM1-7	BM1-8	Unit type
OFF	OFF	ON	Ceiling/Floor Convertible

BM3-1			SX/DX deflector management (optional)
ON			Double
OFF			Single

*** Enabled:** Upon restart, the unit remains off waiting for the user to switch it on

Disabled: The contact is completely inhibited

AD25S2SS1FA 2.5 kW **(multi only)** AD50S2SS1FA 5.0 kW

AD35S2SS1FA 3.5 kW AD71S2SS1FA 7.1 kW

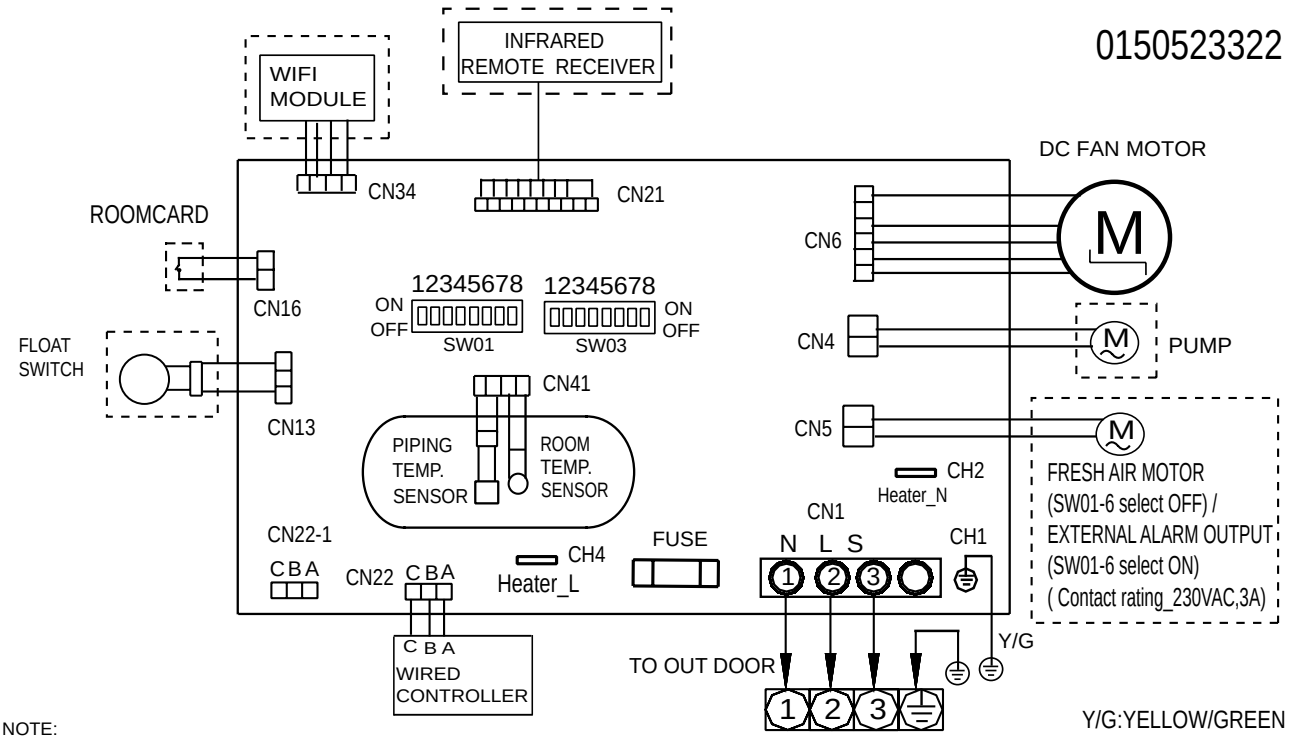
INDOOR UNIT	Model		**AD25S2SS1FA**	**AD35S2SS1FA**	**AD50S2SS1FA**	**AD71S2SS1FA**
COMPATIBLE UNITS R32 / R410A			**only R32**	**only R32**	**only R32**	**I**
Indoor unit technical data						
Liquid pipe Ø		mm	6.35	6.35	6.35	9.52
Gas pipe Ø		mm	9.52	9.52	12.7	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	530/460/390/330	600/480/420/350	900/750/600	1000/850/750
Dimensions	WxDxH	mm	850x420x185	850x420x185	1170x420x185	1170x420x185
Net weight		kg	16	16	22	24

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW - 7.1 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW - 7.1 kW



NOTE:

1. DASHED PARTS ARE OPTIONAL.
2. USER SHOULD NOT SET SW01 AND SW03 WITHOUT GUIDENCE.
3. WHEN ONE WIRED CONTROLLER CONTROL MULTIPLE INDOOR UNIT, IT CAN CONNECT ANOTHER INDOOR UNIT BY CN22 OR CN22-1.
   WHEN TWO WIRD CONTROLLERS CONTROL ONE INDOOR UNIT, THE WIRED CONTROLLER NEED CONNECT WITH CN22 AND CN22-1.
4. SW03-5->SW03-08 ARE USED FOR ADDRESS SETTING ON THE SITUATION OF ONE WIRED CONTROLLER CONTROL MORE THAN ONE INDOOR UNIT.
5. REFER TO SERVICE MANUL TO GET MUCH MORE DETAILS ABOUT THE STATIC PRESSURE LEVEL SELECTION.

INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0 kW - 7.1 kW

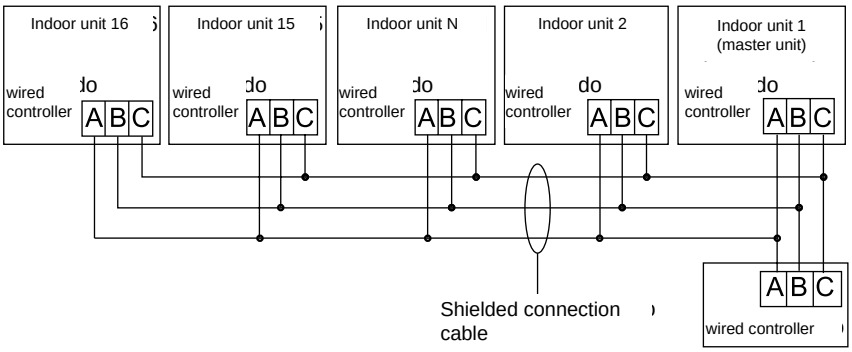
SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**DESCRIPTION**
OFF	OFF	OFF	---	---	---	---	ON	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	ON	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	ON	CAPACITY 5.0 kW
ON	ON	OFF	---	---	---	---	ON	CAPACITY 7.1 kW
OFF	OFF	ON	---	---	---	---	---	N.D.
ON	OFF	ON	---	---	---	---	---	N.D.
OFF	ON	ON	---	---	---	---	---	N.D.
ON	ON	ON	---	---	---	---	---	N.D.
---	---	---	OFF	---	---	---	---	* ROOM CARD (RESTART WITH CONTACT CLOSED)
---	---	---	ON	---	---	---	---	ROOM CARD (STAND BY WITH CONTACT CLOSED)
---	---	---	---	OFF	---	---	---	HEAT PUMP (DEFAULT)
---	---	---	---	ON	---	---	---	COOLING-ONLY
---	---	---	---	---	OFF	---	---	FAN RUNNING SIGNAL ON CN5 (220VAC)
---	---	---	---	---	ON	---	---	ALARM SIGNAL ON CN5 (220VAC)
---	---	---	---	---	---	OFF	---	FILTER CLEANUP ALARM DISABLED (DEFAULT)
---	---	---	---	---	---	ON	---	FILTER CLEANUP ALERT ENABLED

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

SW3 SWITCHES								
SW3-1	**SW3-2**	**SW3-3**	**SW3-4**	**SW3-5**	**SW3-6**	**SW3-7**	**SW3-8**	**DESCRIPTION**
OFF	OFF	OFF	---	---	---	---	---	NOT USED (DEFAULT)
---	---	---	OFF	---	---	---	---	SLIM DUCT LOW PRESSURE
---	---	---	ON	---	---	---	---	DUCTED MEDIUM PRESSURE
---	---	---	---	OFF	OFF	OFF	OFF	MASTER UNIT
---	---	---	---	OFF	OFF	OFF	ON	1 SLAVE UNIT
---	---	---	---	OFF	OFF	ON	OFF	2 SLAVE UNITS
---	---	---	---	OFF	OFF	ON	ON	3 SLAVE UNITS
---	---	---	---	OFF	ON	OFF	OFF	4 SLAVE UNITS
---	---	---	---	OFF	ON	OFF	ON	5 SLAVE UNITS
---	---	---	---	OFF	ON	ON	OFF	6 SLAVE UNITS
---	---	---	---	OFF	ON	ON	ON	7 SLAVE UNITS
---	---	---	---	ON	OFF	OFF	OFF	8 SLAVE UNITS
---	---	---	---	ON	OFF	OFF	ON	9 SLAVE UNITS
---	---	---	---	ON	OFF	ON	OFF	10 SLAVE UNITS
---	---	---	---	ON	OFF	ON	ON	11 SLAVE UNITS
---	---	---	---	ON	ON	OFF	OFF	12 SLAVE
---	---	---	---	ON	ON	OFF	ON	13 SLAVE UNITS
---	---	---	---	ON	ON	ON	OFF	14 SLAVE UNITS
---	---	---	---	ON	ON	ON	ON	15 SLAVE UNITS

SW3 UNIT ADDRESS FOR WIRED CONTROLLER (Refer to SWITCHES SW3-5/8)

You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



Reading and modifying the static fan pressure (wired controller)

FOR READING/MODIFYING THE STATIC PRESSURE, OPERATE DIRECTLY THROUGH THE WIRED CONTROLLER (E.G. YR E-17)

1. With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed. Using the keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications.
2. The unit number is displayed in the minutes field in the upper-left corner and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
3. The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
4. When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
5. The static pressure value is not retained when the auto restart function is not set.
6. The static pressure value of "slave" units, when connected in groups, is not modifiable.
7. The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Prevalence setting of Ducted with remote control:

Set the mode: VENTILATION

Set the fan speed: HIGH

Quickly press HEALTH 4+n times, where "n" is the desired static pressure level

The Ducted responds with n+1 beeps, indicating the level set

NB:

Slim Duct Low Pressure:	4 static pressure levels: 0/10/20/30
Medium Pressure	10 static pressure levels: 25/37/50/70/90/100/110/120/130/150
High Pressure:	10 static pressure levels: 37/50/70/90/110/130/150/170/190/210

Example:

Slim Duct Low Pressure AD35S2SS1FA

To set maximum static pressure:

- ventilation mode, high speed; quickly press HEALTH 4+4= 8 TIMES; the Ducted will respond with 4+1=5 BEEPs

AD35S2SM3FA 3.5 kW
AD50S2SM3FA 5.0 kW
AD71S2SM3FA 7.1 kW
AD90S2SM3FA 9.0 kW
AD105S2SM3FA 10.5 kW
AD125S2SM3FA 12.5 kW
AD140S2SM3FA 14.0 kW

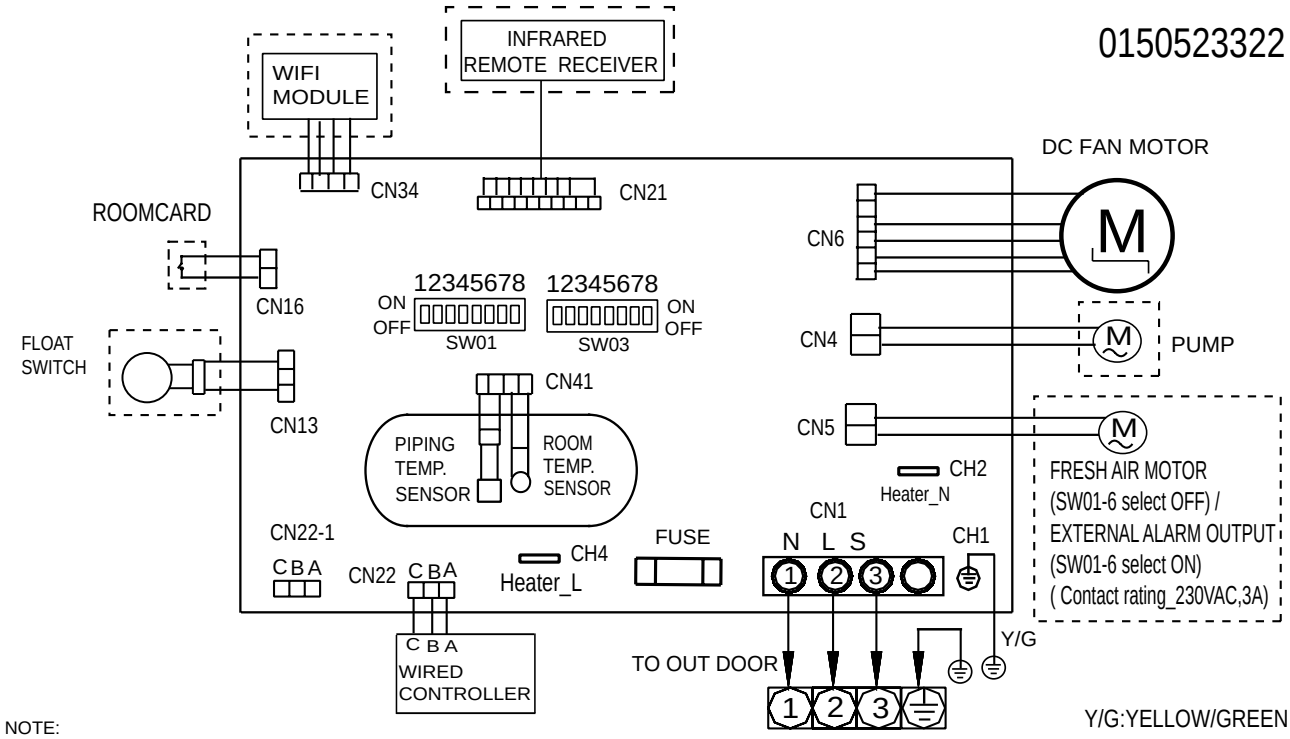
INDOOR UNIT	Model		AD35S2SM3FA	AD50S2SM3FA	AD71S2SM3FA	AD90S2SM3FA	AD105S2SM3FA	AD125S2SM3FA	AD140S2SM3FA
COMPATIBLE UNITS R32 / R410A			only R32	only R32	I	R410A only	I	I	I
Indoor unit technical data									
Liquid pipe Ø		mm	6.35	6.35	9.52	9.52	9.52	9.52	9.52
Gas pipe Ø		mm	9.52	12.7	15.88	15.88	15.88	15.88	15.88
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	840/720/600/450	1020/900/780/550	1440/1260/1100/900	1440/1260/1100/900	1600/1480/1360/1240	2250/1960/1680/1500	2500/2160/1780/1500
Dimensions	WxDxH	mm	700x700x250	1100x700x248	1100x700x248	1100x700x248	1500x700x248	1500x700x248	1500x700x248
Net weight		kg	26	32	32	32	35	52	52

DIAGNOSTICS 3.5 kW - 5.0 kW - 7.1 kW - 9.0 kW - 10.5 kW - 12.5 kW - 14.0 kW

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86
- To see the list of alarms for the indoor units connected to MULTI outdoor units, go to page 76

IU CIRCUIT DIAGRAM 3.5 kW - 5.0 kW - 7.1 kW



NOTE:
1. DASHED PARTS ARE OPTIONAL.
2. USER SHOULD NOT SET SW01 AND SW03 WITHOUT GUIDENCE.
3. WHEN ONE WIRED CONTROLLER CONTROL MULTIPLE INDOOR UNIT, IT CAN CONNECT ANOTHER INDOOR UNIT BY CN22 OR CN22-1.
   WHEN TWO WIRD CONTROLLERS CONTROL ONE INDOOR UNIT, THE WIRED CONTROLLER NEED CONNECT WITH CN22 AND CN22-1.
4. SW03-5->SW03-08 ARE USED FOR ADDRESS SETTING ON THE SITUATION OF ONE WIRED CONTROLLER CONTROL MORE THAN ONE INDOOR UNIT.
5. REFER TO SERVICE MANUL TO GET MUCH MORE DETAILS ABOUT THE STATIC PRESSURE LEVEL SELECTION.

INDOOR UNIT SETTINGS 3.5 kW - 5.0 kW - 7.1 kW

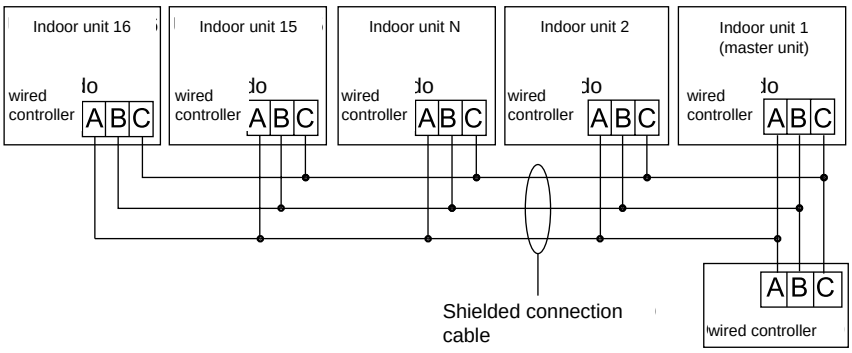
SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**DESCRIPTION**
OFF	OFF	OFF	---	---	---	---	ON	CAPACITY 2.5 kW
ON	OFF	OFF	---	---	---	---	ON	CAPACITY 3.5 kW
OFF	ON	OFF	---	---	---	---	ON	CAPACITY 5.0 kW
ON	ON	OFF	---	---	---	---	ON	CAPACITY 7.1 kW
OFF	OFF	ON	---	---	---	---	ON	CAPACITY 9.0 kW
ON	OFF	ON	---	---	---	---	ON	CAPACITY 10.5 kW
OFF	ON	ON	---	---	---	---	---	N.D.
ON	ON	ON	---	---	---	---	---	N.D.
---	---	---	OFF	---	---	---	---	* ROOM CARD (RESTART WITH CONTACT CLOSED)
---	---	---	ON	---	---	---	---	ROOM CARD (STAND BY WITH CONTACT CLOSED)
---	---	---	---	OFF	---	---	---	HEAT PUMP (DEFAULT)
---	---	---	---	ON	---	---	---	COOLING-ONLY
---	---	---	---	---	OFF	---	---	FAN RUNNING SIGNAL ON CN5 (220VAC)
---	---	---	---	---	ON	---	---	ALARM SIGNAL ON CN5 (220VAC)
---	---	---	---	---	---	OFF	---	FILTER CLEANUP ALARM DISABLED (DEFAULT)
---	---	---	---	---	---	ON	---	FILTER CLEANUP ALERT ENABLED

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

SW3 SWITCHES								
SW3-1	**SW3-2**	**SW3-3**	**SW3-4**	**SW3-5**	**SW3-6**	**SW3-7**	**SW3-8**	**DESCRIPTION**
OFF	OFF	OFF	---	---	---	---	---	NOT USED (DEFAULT)
---	---	---	OFF	---	---	---	---	SLIM DUCT LOW PRESSURE
---	---	---	ON	---	---	---	---	DUCTED MEDIUM PRESSURE
---	---	---	---	OFF	OFF	OFF	OFF	MASTER UNIT
---	---	---	---	OFF	OFF	OFF	ON	1 SLAVE UNIT
---	---	---	---	OFF	OFF	ON	OFF	2 SLAVE UNITS
---	---	---	---	OFF	OFF	ON	ON	3 SLAVE UNITS
---	---	---	---	OFF	ON	OFF	OFF	4 SLAVE UNITS
---	---	---	---	OFF	ON	OFF	ON	5 SLAVE UNITS
---	---	---	---	OFF	ON	ON	OFF	6 SLAVE UNITS
---	---	---	---	OFF	ON	ON	ON	7 SLAVE UNITS
---	---	---	---	ON	OFF	OFF	OFF	8 SLAVE UNITS
---	---	---	---	ON	OFF	OFF	ON	9 SLAVE UNITS
---	---	---	---	ON	OFF	ON	OFF	10 SLAVE UNITS
---	---	---	---	ON	OFF	ON	ON	11 SLAVE UNITS
---	---	---	---	ON	ON	OFF	OFF	12 SLAVE
---	---	---	---	ON	ON	OFF	ON	13 SLAVE UNITS
---	---	---	---	ON	ON	ON	OFF	14 SLAVE UNITS
---	---	---	---	ON	ON	ON	ON	15 SLAVE UNITS

SW3 UNIT ADDRESS FOR WIRED CONTROLLER (Refer to SWITCHES SW3-5/8)

You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



Reading and modifying the static fan pressure (wired controller)

FOR READING/MODIFYING THE STATIC PRESSURE, OPERATE DIRECTLY THROUGH THE WIRED CONTROLLER (E.G. YR E-17)

1. With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed. Using the keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications.
2. The unit number is displayed in the minutes field in the upper-left corner and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
3. The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
4. When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
5. The static pressure value is not retained when the auto restart function is not set.
6. The static pressure value of "slave" units, when connected in groups, is not modifiable.
7. The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Prevalence setting of Ducted with remote control:

Set the mode: VENTILATION

Set the fan speed: HIGH

Quickly press HEALTH 4+n times, where "n" is the desired static pressure level

The Ducted responds with n+1 beeps, indicating the level set

NB:

Slim Duct Low Pressure: 4 static pressure levels: 0/10/20/30

Medium Pressure 10 static pressure levels: 25/37/50/70/90/100/110/120/130/150

High Pressure: 10 static pressure levels: 37/50/70/90/110/130/150/170/190/210

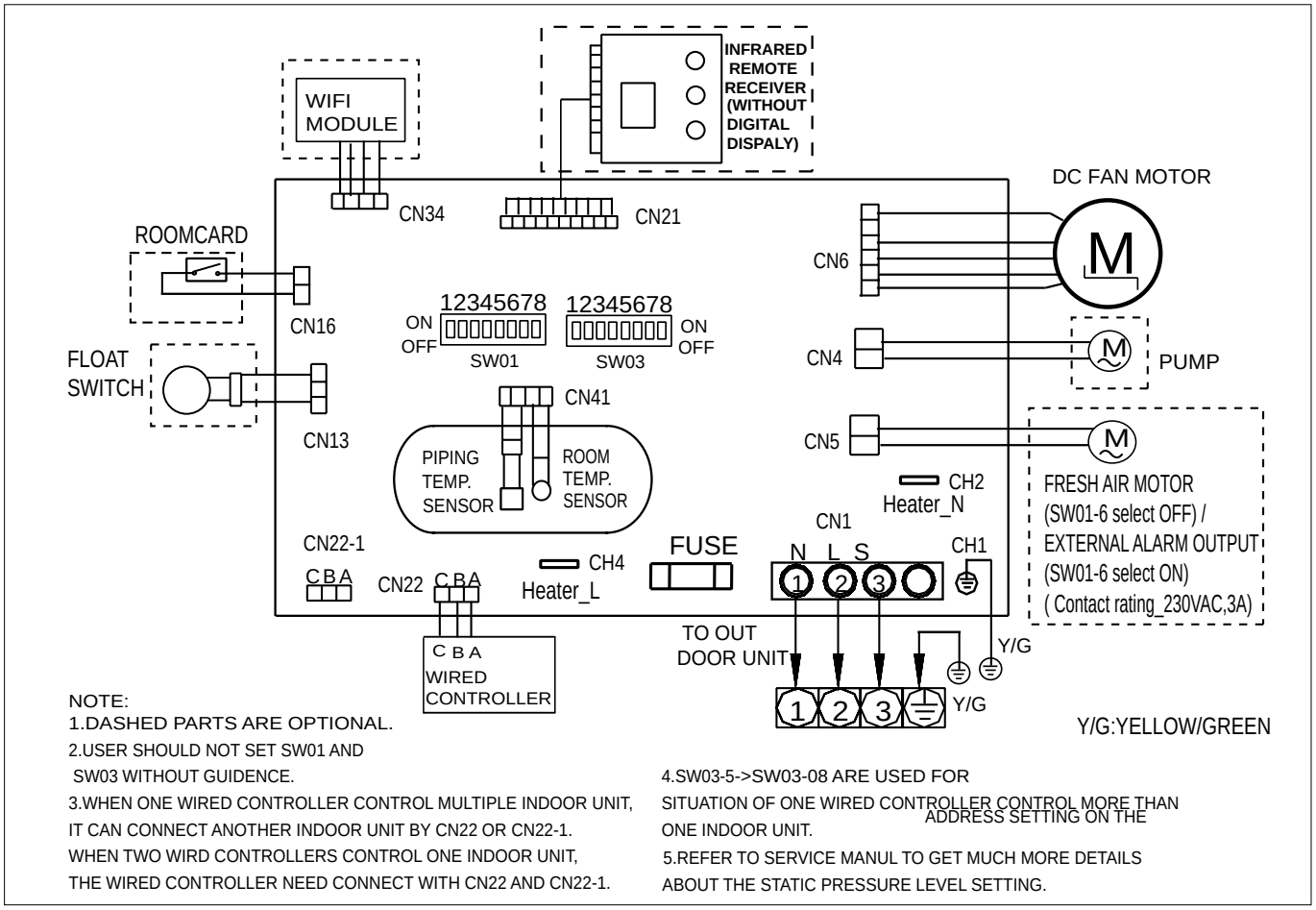
Example:

Slim Duct Low Pressure AD35S2SS1FA

To set maximum static pressure:

- ventilation mode, high speed; quickly press HEALTH 4+4= 8 TIMES; the Ducted will respond with 4+1=5 BEEPs

IU WIRING DIAGRAM 9.0 kW - 10.5 kW



INDOOR UNIT SETTINGS 9.0 kW - 10.5 kW

SW3 SWITCHES								
SW3-1	**SW3-2**	**SW3-3**	**SW3-4**	**SW3-5**	**SW3-6**	**SW3-7**	**SW3-8**	**DESCRIPTION**
OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	DEFAULT FOR CAPACITY 7.1 kW - 9.0 kW - 10.5 kW

SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**MODELS**
ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	AD35S2SM3/4FA
OFF	ON	OFF	OFF	OFF	OFF	OFF	ON	AD50S2SM3/4FA
ON	ON	OFF	OFF	OFF	OFF	OFF	ON	AD71S2SM3/4FA
OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	AD90S2SM3/4FA
ON	OFF	ON	OFF	OFF	OFF	OFF	ON	AD105S2SM3/4FA

Reading and modifying the static fan pressure (wired controller)

FOR READING/MODIFYING THE STATIC PRESSURE, OPERATE DIRECTLY THROUGH THE WIRED CONTROLLER (E.G. YR E-17)

1. With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed. Using the keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications.
2. The unit number is displayed in the minutes field in the upper-left corner and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
3. The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
4. When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
5. The static pressure value is not retained when the auto restart function is not set.
6. The static pressure value of "slave" units, when connected in groups, is not modifiable.
7. The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Prevalence setting of Ducted with remote control:

Set the mode: VENTILATION

Set the fan speed: HIGH

Quickly press HEALTH 4+n times, where "n" is the desired static pressure level

The Ducted responds with n+1 beeps, indicating the level set

NB:

Slim Duct Low Pressure: 4 static pressure levels: 0/10/20/30

Medium Pressure 10 static pressure levels: 25/37/50/70/90/100/110/120/130/150

High Pressure: 10 static pressure levels: 37/50/70/90/110/130/150/170/190/210

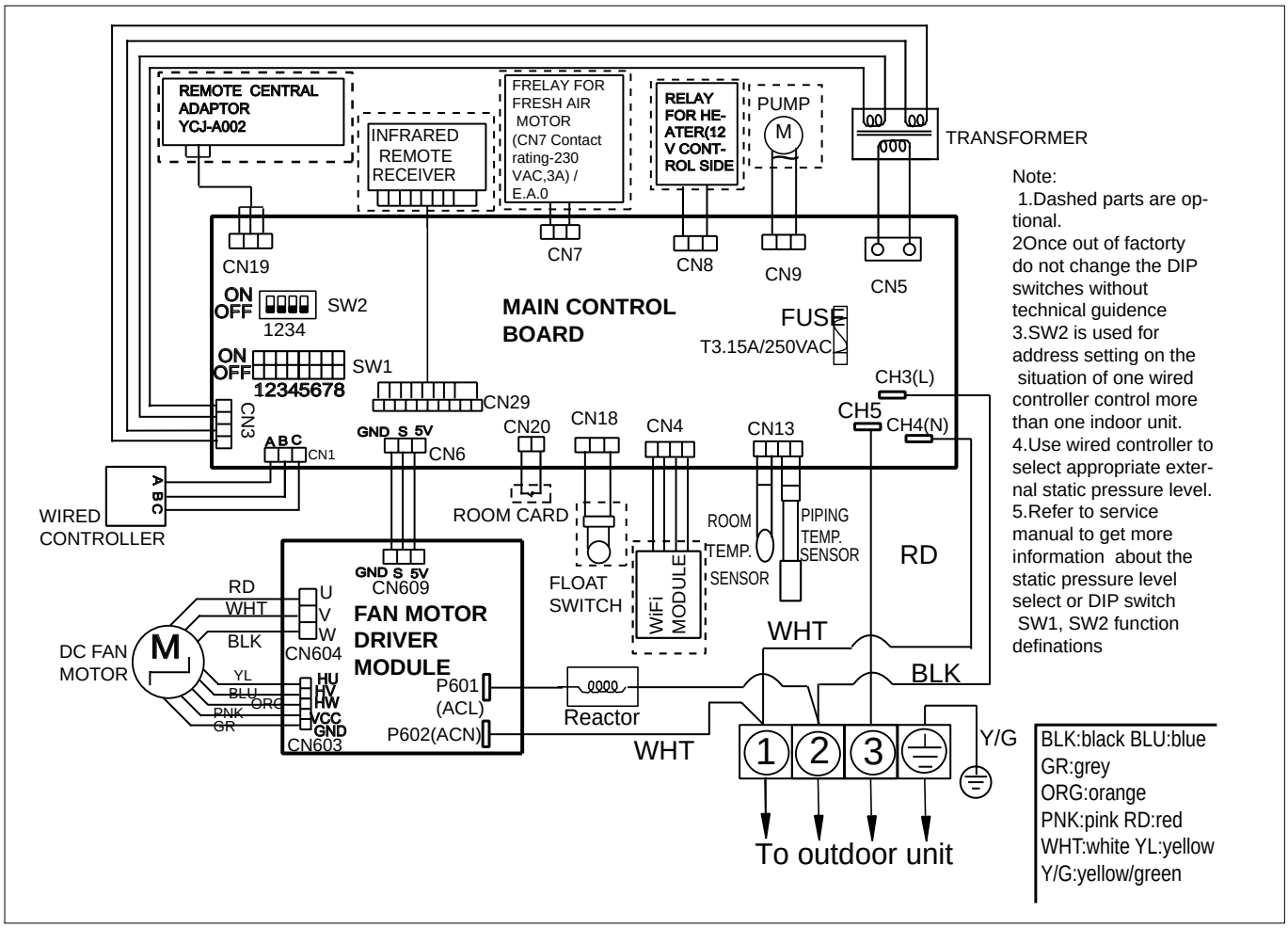
Example:

Slim Duct Low Pressure AD35S2SS1FA

To set maximum static pressure:

- ventilation mode, high speed; quickly press HEALTH 4+4= 8 TIMES; the Ducted will respond with 4+1=5 BEEPs

IU CIRCUIT DIAGRAM 12.5 kW - 14.0 kW



INDOOR UNIT SETTINGS 12.5 kW - 14.0 kW

SW1 SWITCHES DEFAULT FOR CAPACITY 12.5 kW - 14 kW								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**MODELS**
OFF	ON	ON	OFF	OFF	OFF	ON	OFF	AD125S2SM3FA
ON	ON	ON	OFF	OFF	OFF	ON	OFF	AD140S2SM3FA

SW2 SWITCHES				
SW2-1	**SW2-2**	**SW2-3**	**SW2-4**	**ADDRESS OF WIRED CONTROLLER**
OFF	OFF	OFF	OFF	Master unit
OFF	OFF	OFF	ON	Slave unit 1
OFF	OFF	ON	OFF	Slave unit 2
--	--	--	--	Address No. --
ON	ON	ON	ON	Address No. 16

Reading and modifying the static fan pressure (wired controller)

FOR READING/MODIFYING THE STATIC PRESSURE, OPERATE DIRECTLY THROUGH THE WIRED CONTROLLER (E.G. YR E-17)

1. With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed. Using the keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications.
2. The unit number is displayed in the minutes field in the upper-left corner and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
3. The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
4. When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
5. The static pressure value is not retained when the auto restart function is not set.
6. The static pressure value of "slave" units, when connected in groups, is not modifiable.
7. The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Prevalence setting of Ducted with remote control:

Set the mode: VENTILATION

Set the fan speed: HIGH

Quickly press HEALTH 4+n times, where "n" is the desired static pressure level

The Ducted responds with n+1 beeps, indicating the level set

NB:

Slim Duct Low Pressure: 4 static pressure levels: 0/10/20/30

Medium Pressure 10 static pressure levels: 25/37/50/70/90/100/110/120/130/150

High Pressure: 10 static pressure levels: 37/50/70/90/110/130/150/170/190/210

Example:

Slim Duct Low Pressure AD35S2SS1FA

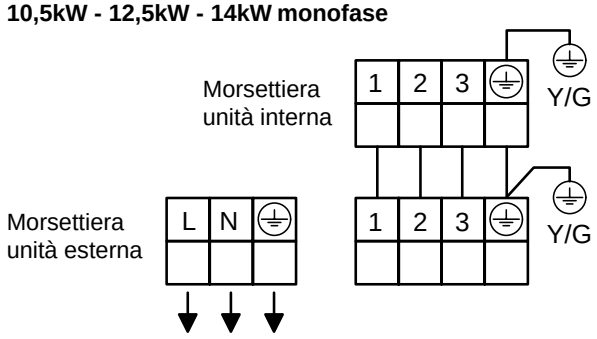
To set maximum static pressure:

- ventilation mode, high speed; quickly press HEALTH 4+4= 8 TIMES; the Ducted will respond with 4+1=5 BEEPs

ADH105H1ERG (10.5 kW)
ADH125H1ERG (12.5 kW)
ADH140H1ERG (14 kW)
ADH160H1ERG (16 kW)
ADH200H1ERG (20 kW)
ADH250H1ERG (25 kW)

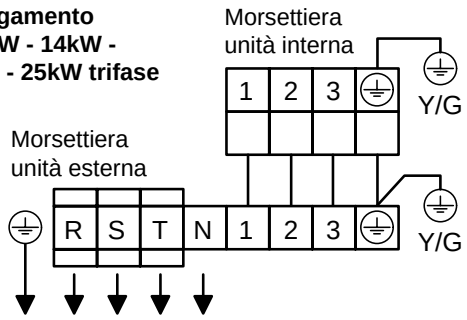
WIRING DIAGRAM 10.5 kW - 12.5 kW - 14 kW - 16 kW - 20 kW - 25 kW

Collegamento
10,5kW - 12,5kW - 14kW monofase



Alimentazione: 1PH, 220-230V~, 50Hz

Collegamento
12,5kW - 14kW -
20kW - 25kW trifase



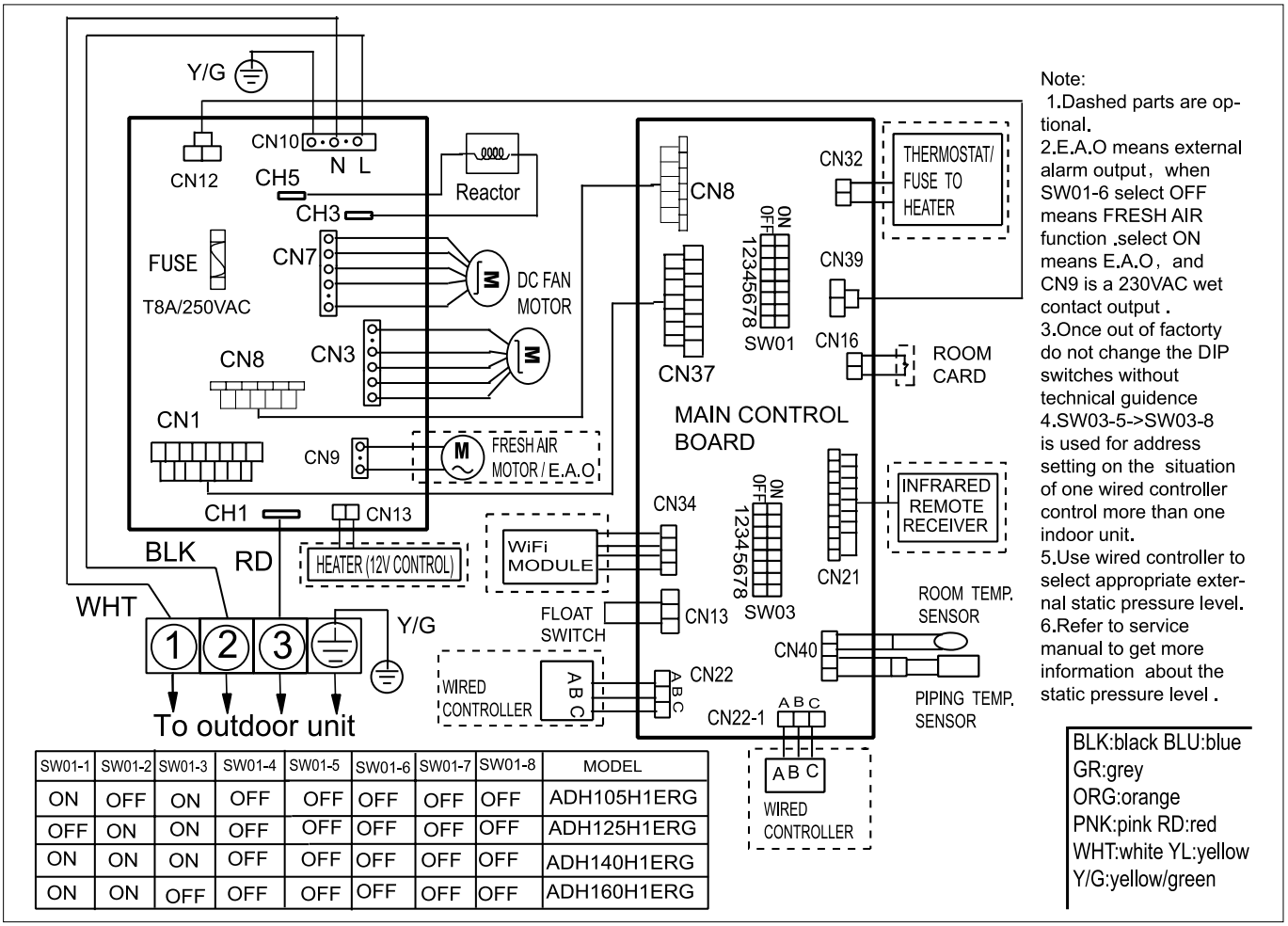
Alimentazione: 3N~, 380-400V~, 50Hz

INDOOR UNIT	Model		ADH105H1ERG	ADH125H1ERG	ADH140H1ERG	ADH160H1ERG	ADH200H1ERG	ADH250H1ERG
COMPATIBLE UNITS R32 / R410A				I	I			
Indoor unit technical data								
Liquid pipe Ø		mm	9.52	9.52	9.52	9.52	12.7	12.7
Gas pipe Ø		mm	15.88	15.88	15.88	15.88	19.05	22.2
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m^3/h	2880/2380/1880/1380	3250/2750/2250/1750	3600/3100/2600/2100	4000/3400/2800/2200	4320/3780/3420/3060	5040/4500/3960/3600
Dimensions	WxDxH	mm	1350x490x425	1350x490x425	1350x490x425	1350x490x425	1330x895x500	1330x895x500
Net weight		kg	59	61	61	61	96	96

IU DIAGNOSTICS 10.5 kW - 12.5 kW - 14 kW - 16 kW - 20 kW - 25 kW

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 86

IU CIRCUIT DIAGRAM 10.5 KW - 12.5 KW - 14 KW - 16 KW



Note:
1.Dashed parts are optional.
2.E.A.O means external alarm output, when SW01-6 select OFF means FRESH AIR function .select ON means E.A.O, and CN9 is a 230VAC wet contact output .
3.Once out of factorty do not change the DIP switches without technical guidence
4.SW03-5->SW03-8 is used for address setting on the situation of one wired controller control more than one indoor unit.
5.Use wired controller to select appropriate external static pressure level.
6.Refer to service manual to get more information about the static pressure level .

BLK:black BLU:blue
GR:grey
ORG:orange
PNK:pink RD:red
WHT:white YL:yellow
Y/G:yellow/green

SW01-1	SW01-2	SW01-3	SW01-4	SW01-5	SW01-6	SW01-7	SW01-8	MODEL
ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	ADH105H1ERG
OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ADH125H1ERG
ON	ON	ON	OFF	OFF	OFF	OFF	OFF	ADH140H1ERG
ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ADH160H1ERG

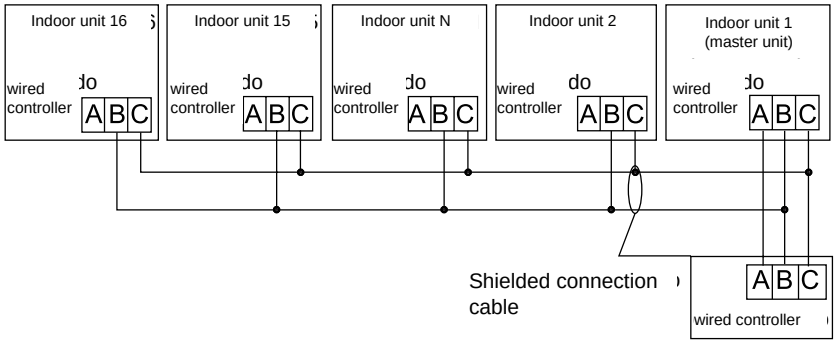
UI SETTINGS 10.5 kW - 12.5 kW - 14 kW - 16 kW

SW1(BM1) 1=ON 0=OFF								
Capacity (SW1-1 / SW1-3)			Room card	Cooling only / Heat pump	Enabling feature SMART FOLLOW			Description
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
1	0	1	-	-	-	-	-	CAPACITY 10.5 kW
0	1	1	-	-	-	-	-	CAPACITY 12.5 kW
1	1	1	-	-	-	-	-	CAPACITY 14.0 kW
1	1	0	-	-	-	-	-	CAPACITY 16.0 kW
-	-	-	0	-	-	-	-	Room card with restart
-	-	-	1	-	-	-	-	Room card without restart
-	-	-	-	0	-	-	-	Heat pump
-	-	-	-	1	-	-	-	Cooling-only
-	-	-	-	-	0	0	1	Default

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

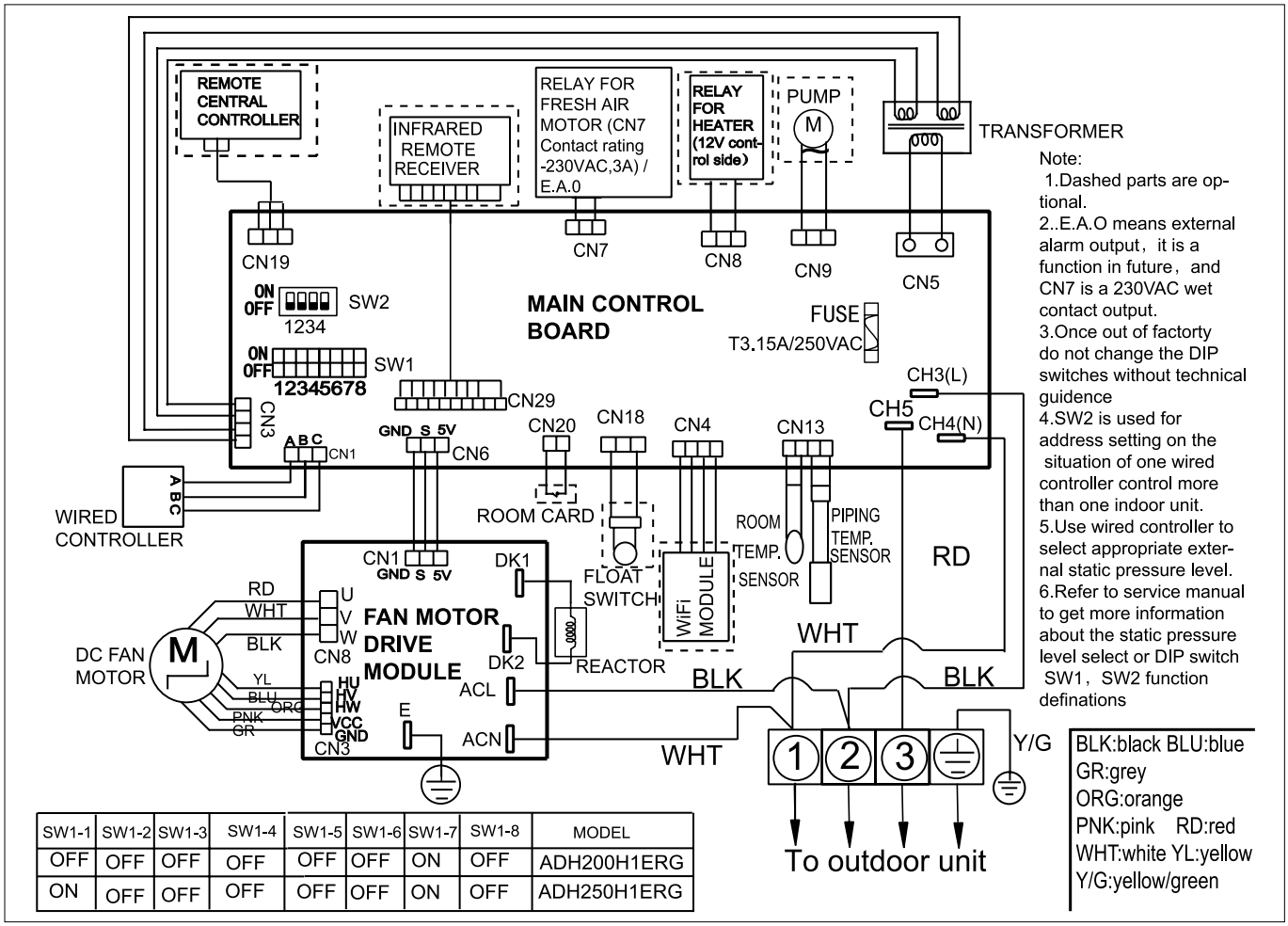
SW2 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller. You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



SW3	
master unit	ON OFF 1 2 3 4
slave unit 1	ON OFF 1 2 3 4
slave unit 2	ON OFF 1 2 3 4

IU CIRCUIT DIAGRAM 20 kW - 25 kW



Note:
1.Dashed parts are optional.
2..E.A.O means external alarm output，it is a function in future，and CN7 is a 230VAC wet contact output.
3.Once out of factorty do not change the DIP switches without technical guidence
4.SW2 is used for address setting on the situation of one wired controller control more than one indoor unit.
5.Use wired controller to select appropriate external static pressure level.
6.Refer to service manual to get more information about the static pressure level select or DIP switch SW1，SW2 function defination

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	MODEL
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ADH200H1ERG
ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	ADH250H1ERG

IU SETTINGS 20kW- 25 kW

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	MODELS
OFF	OFF	OFF						ADH200H1ERG
ON	OFF	OFF						ADH250H1ERG
			OFF					Room card with restart
			ON					Room card without restart
				OFF				Heat pump
				ON				Cooling-only
					OFF	ON	OFF	Default
					OFF	ON	OFF	N.D:

* Room card: When the contact is closed, the unit will start again in automatic mode with set point at 24°C

Reading and modifying the static fan pressure (wired controller)

FOR READING/MODIFYING THE STATIC PRESSURE, OPERATE DIRECTLY THROUGH THE WIRED CONTROLLER (E.G. YR E-17)

1. With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed. Using the keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications.
2. The unit number is displayed in the minutes field in the upper-left corner and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
3. The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
4. When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
5. The static pressure value is not retained when the auto restart function is not set.
6. The static pressure value of "slave" units, when connected in groups, is not modifiable.
7. The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Prevalence setting of Ducted with remote control:

Set the mode: VENTILATION

Set the fan speed: HIGH

Quickly press HEALTH 4+n times, where "n" is the desired static pressure level

The Ducted responds with n+1 beeps, indicating the level set

NB:

Slim Duct Low Pressure:	4 static pressure levels: 0/10/20/30
Medium Pressure	10 static pressure levels: 25/37/50/70/90/100/110/120/130/150
High Pressure:	10 static pressure levels: 37/50/70/90/110/130/150/170/190/210

Example:

Slim Duct Low Pressure AD35S2SS1FA

To set maximum static pressure:

- ventilation mode, high speed; quickly press HEALTH 4+4= 8 TIMES; the Ducted will respond with 4+1=5 BEEPs

AP48KS1ERA(S) (48K)

AP48DS1ERA(S) (48K)

AP60KS1ERA(S) (60K)

INDOOR UNIT	Model		AP48KS1ERA(S)	AP48DS1ERA(S)	AP60KS1ERA(S)
Indoor unit technical data					
Liquid pipe Ø		mm	9.52	9.52	9.52
Gas pipe Ø		mm	19.05	19.05	19.05
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m³/h	1750/1500/1350	1750/1500/1350	1750/1500/1350
Dimensions	WxDxH	mm	600x350x1850	529x380x1825	600x350x1850
Net weight		kg	57	55	57

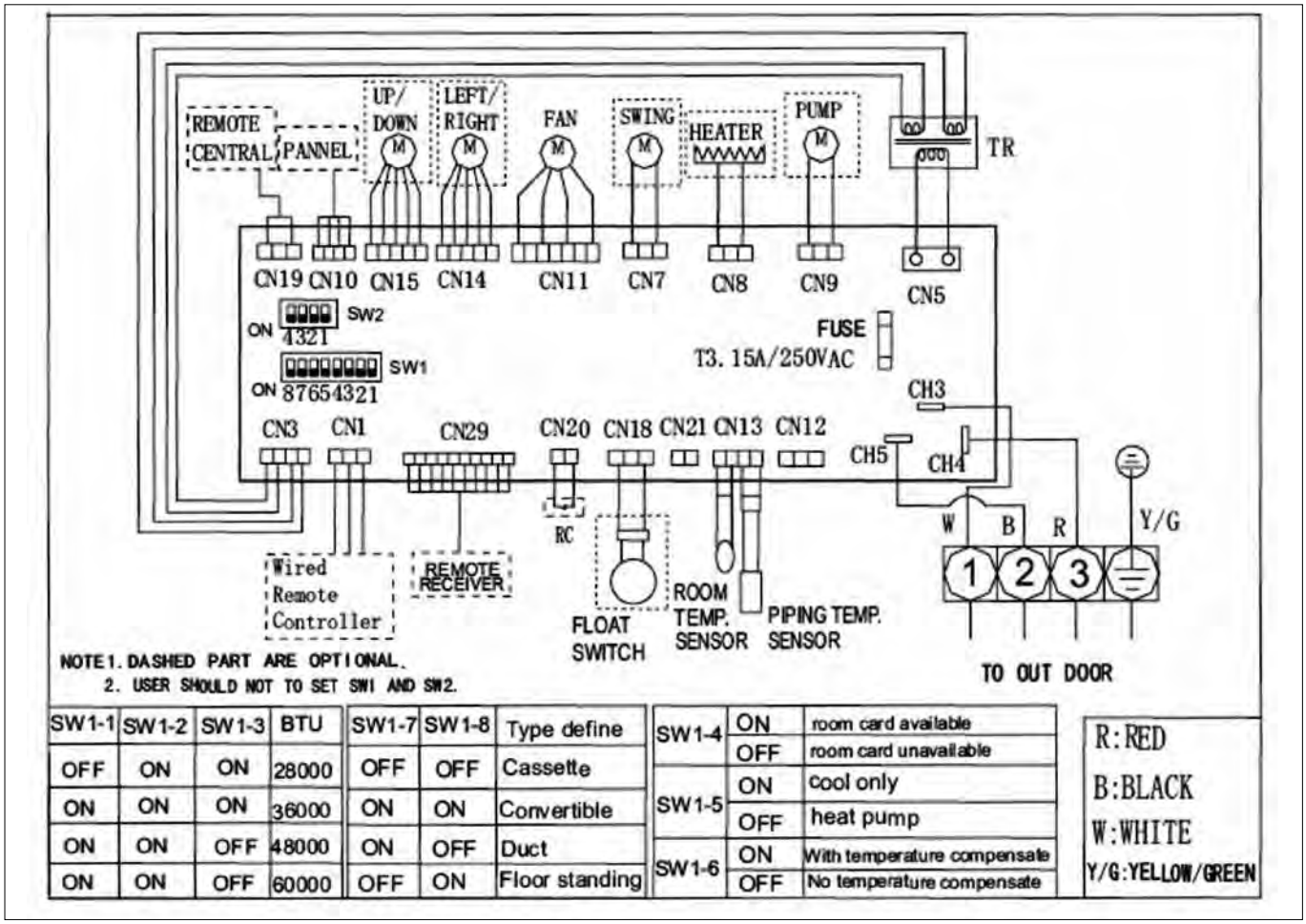
IU DIAGNOSTICS 48K - 60K

Indoor unit diagnostics may differ depending on the outdoor unit with which it is connected.

- To see the list of alarms for the indoor units connected to MONO outdoor units, go to page 101

NOTE: In case of "F7" alarm on the display, refer to the alarm indication on the outdoor unit, as the causes can be multiple.

IU CIRCUIT DIAGRAM 48K - 60K



SW1-1	SW1-2	SW1-3	BTU	SW1-7	SW1-8	Type define
OFF	ON	ON	28000	OFF	OFF	Cassette
ON	ON	ON	36000	ON	ON	Convertible
ON	ON	OFF	48000	ON	OFF	Duct
ON	ON	OFF	60000	OFF	ON	Floor standing

SW1-4	ON	room card available
	OFF	room card unavailable
SW1-5	ON	cool only
	OFF	heat pump
SW1-6	ON	With temperature compensate
	OFF	No temperature compensate

R:RED
B:BLACK
W:WHITE
Y/G:YELLOW/GREEN

Important:

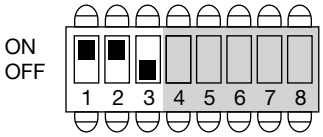
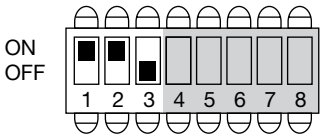
If the control keypad on the indoor unit does not allow decreasing the temperature below 26°C, do the following:

- With the machine powered, disconnect the CN29 connector on the electronic board and connect it back after 10 sec.
- From remote control set the unit to 30°C in cooling mode at maximum air speed and then press the SLEEP button 6 times.

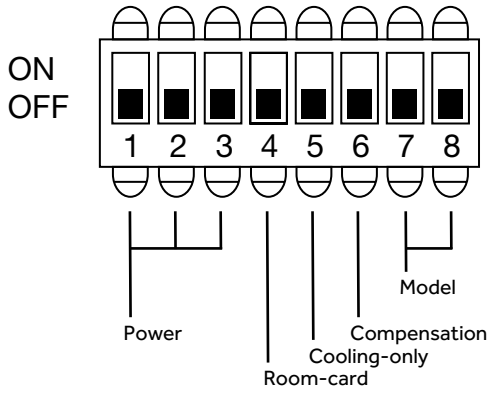
The buzzer will have to issue 8 "BEEPs"

Check if the setting to select temperature has now been unlocked

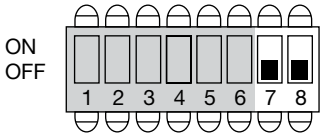
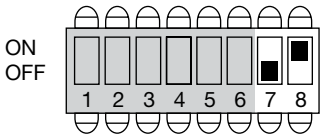
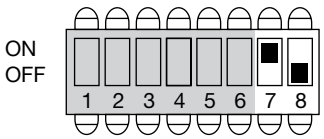
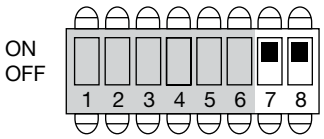
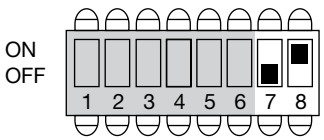
IU SETTINGS 48K - 60K

Table 1	
SW1	**CAPACITY Btu**
	48000
	60000

SW1



Note:
Always check to set the respective capacity shown in the rating plate data of the indoor unit.

Table 2	
SW1	**MODEL**
	Cassette
	Ceiling/Floor Convertible ≤ 24000 Btu
	Ducted
	Ceiling/Floor Convertible > 24000 Btu
	Tower

Selecting the indoor unit capacity (SW1-1-2-3):

Using switches 1, 2, 3, you can select the cooling capacity of the indoor units. Following the combinations shown in the table **1**, you can set the capacity from 48000 to 60000 Btu.

Selecting the room-card (indoor unit activation board) (SW1-4):

Switch 4 selects how the room-card input (CN20) operates, which through a clean contact allows you to control the unit from an external device (e.g. clock or window contact).

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote controller or wired controller).
With outdoor contact open, the controller cannot control the unit.

Selecting the cooling-only mode (SW1-5):

Using switch 5 you can decide whether to operate the indoor units in cooling-only mode or heat pump mode (normal factory setting)

OFF heat pump mode (as per factory settings)

ON cooling-only mode

Ambient sensor reading compensation (SW1-6):

Using switch 6 you can select whether to apply a compensation for the ambient sensor of the indoor unit in heating mode, so as to compensate for any differences with respect to the temperature measured at "man height".

OFF compensation disabled

ON Compensation enabled (+4°C)

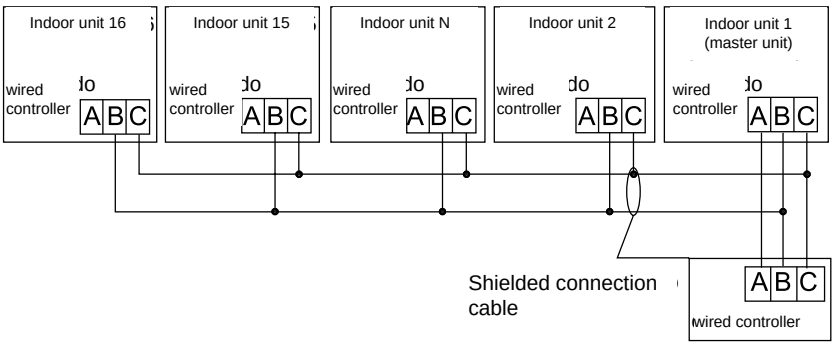
This function is disabled for units that use wired controller (e.g. ducted units).

Selecting the indoor unit model (SW1-7-8):

Using switches 7 and 8 and the combinations shown in Table **2**, you can select the model of the installed indoor unit amongst the Cassette, Ceiling / Floor Convertible and Ducted models with capacities between 12000 and 24000 Btu.

SW2 UNIT ADDRESS FOR WIRED CONTROLLER

Addresses for communication of multiple units with a single wired controller. You can connect up to 16 indoor units using a single wired controller. Each unit must have its respective address:



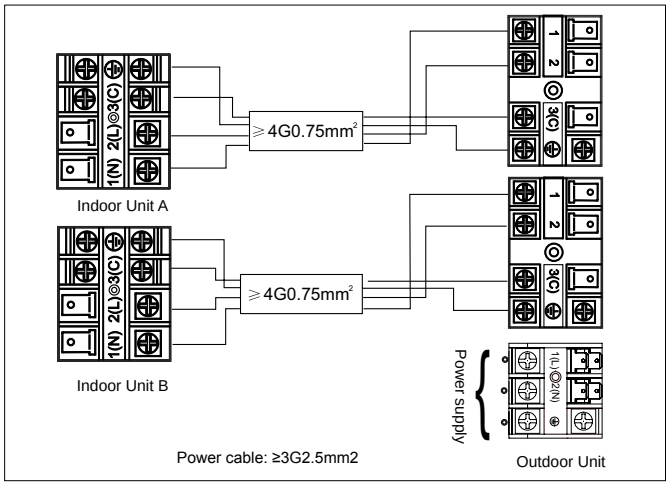
Note:
In tower units, pressing the "lock" button from the remote control not only locks the remote control but also the "lock" symbol appears on the tower display and the buttons are inhibited.

SW2	
master unit	ON OFF 1 2 3 4
slave unit 1	ON OFF 1 2 3 4
slave unit 2	ON OFF 1 2 3 4
slave unit 3	ON OFF 1 2 3 4
.....	ON OFF 1 2 3 4
slave unit 15	ON OFF 1 2 3 4

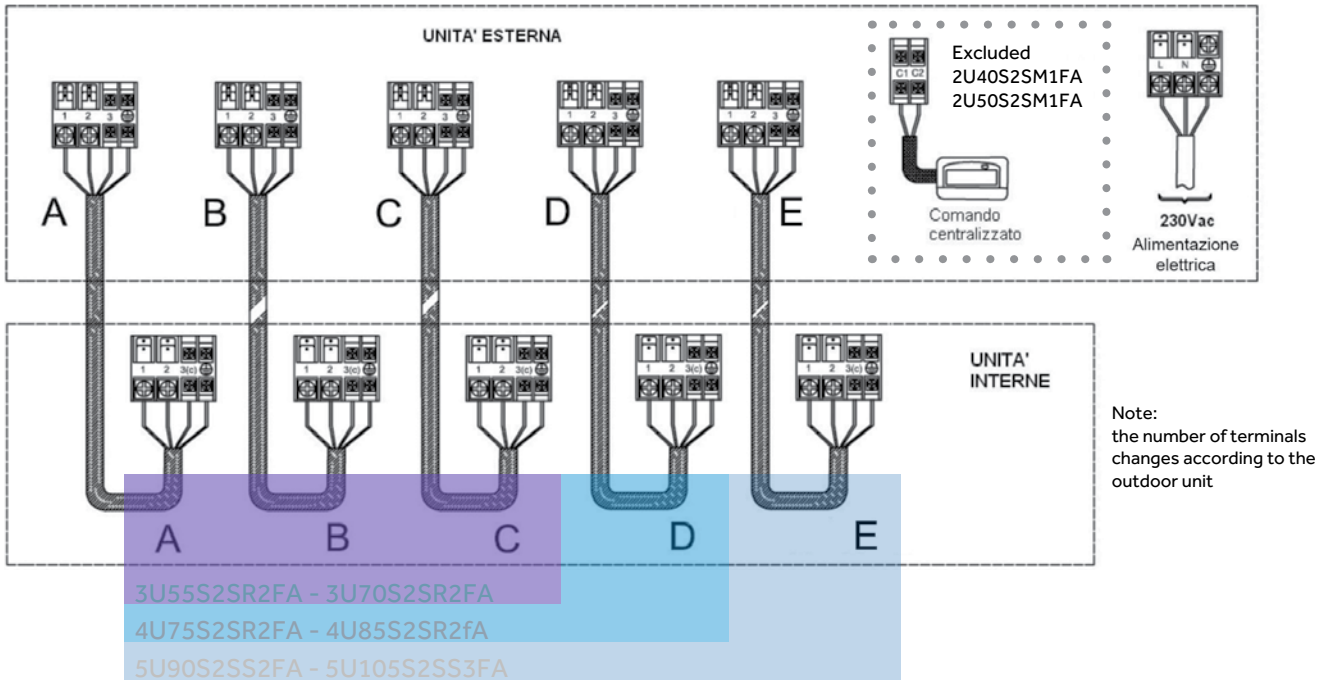
2U40S2SM1FA (2 couplings) 4.2 kW
2U50S2SM1FA (2 couplings) 5.0 kW
3U55S2SR2FA (3 couplings) 5.5 kW
3U70S2SR2FA (3 couplings) 7.0 kW
4U75S2SR2FA (4 couplings) 7.5 kW
4U85S2SR2FA (4 couplings) 8.5 kW
5U90S2SS2FA (5 couplings) 9.0 kW
5U105S2SS3FA (5 couplings) 10.5 kW

WIRING DIAGRAM 1:2

2U40S2SM1FA - 2U50S2SM1FA



WIRING DIAGRAM 1:3 3U55S2SR2FA - 3U70S2SR2FA / 1:4 4U75S2SR2FA - 4U85S2SR2FA / 1:5 5U90S2SS2FA - 5U105S2SS3FA



Note:
the number of terminals changes according to the outdoor unit

OUTDOOR UNIT	Model		2U40S2SM1FA	2U50S2SM1FA	3U55S2SR2FA	3U70S2SR2FA	4U75S2SR2FA	4U85S2SR2FA	5U90S2SS2FA	5U105S2SS3FA
Outdoor unit technical data										
Power Supply		V-Ph- Hz	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50
Liquid pipe Ø		mm	2x6.35	2x6.35	3x6.35	3x6.35	4x6.35	4x6.35	5x6.35	5x6.35
Gas pipe Ø		mm	2x9.52	2x9.52	3x9.52	3x9.52	3x9.52+1x12.7	3x9.52+1x12.7	3x9.52+2x12.7	3x9.52+2x12.7
Total maximum pipe length		m	30	30	50	60	70	70	80	80
Max pipe length OU - IU		m	20	20	25	25	25	25	25	25
Standard pipe length without refrigerant charge		m	20	20	30	30	40	40	40	40
Maximum IU - OU elevation		m	15	15	15	15	15	15	15	15
Max IU - IU elevation		m	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Refrigerant charge in the factory R32		kg	1.0	1.4	1.6	1.6	2.2	2.2	2.4	2.4
Additional refrigerant charge R32		g/m	20	20	20	20	20	20	20	20
Dimensions	WxDxH	mm	800x275x553	800x275x553	890x340x700	890x340x700	890x340x700	890x340x700	920x372x760	920x372x760
Net weight		kg	34	36	51	54	61	61	66	66
Outdoor unit power cable		mm²	3G1.5	3G1.5	3G2.5	3G2.5	3G2.5	3G2.5	3G2.5	3G2.5
Outdoor unit - Indoor unit cable		mm²	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5

DIAGNOSTICS FOR MULTI

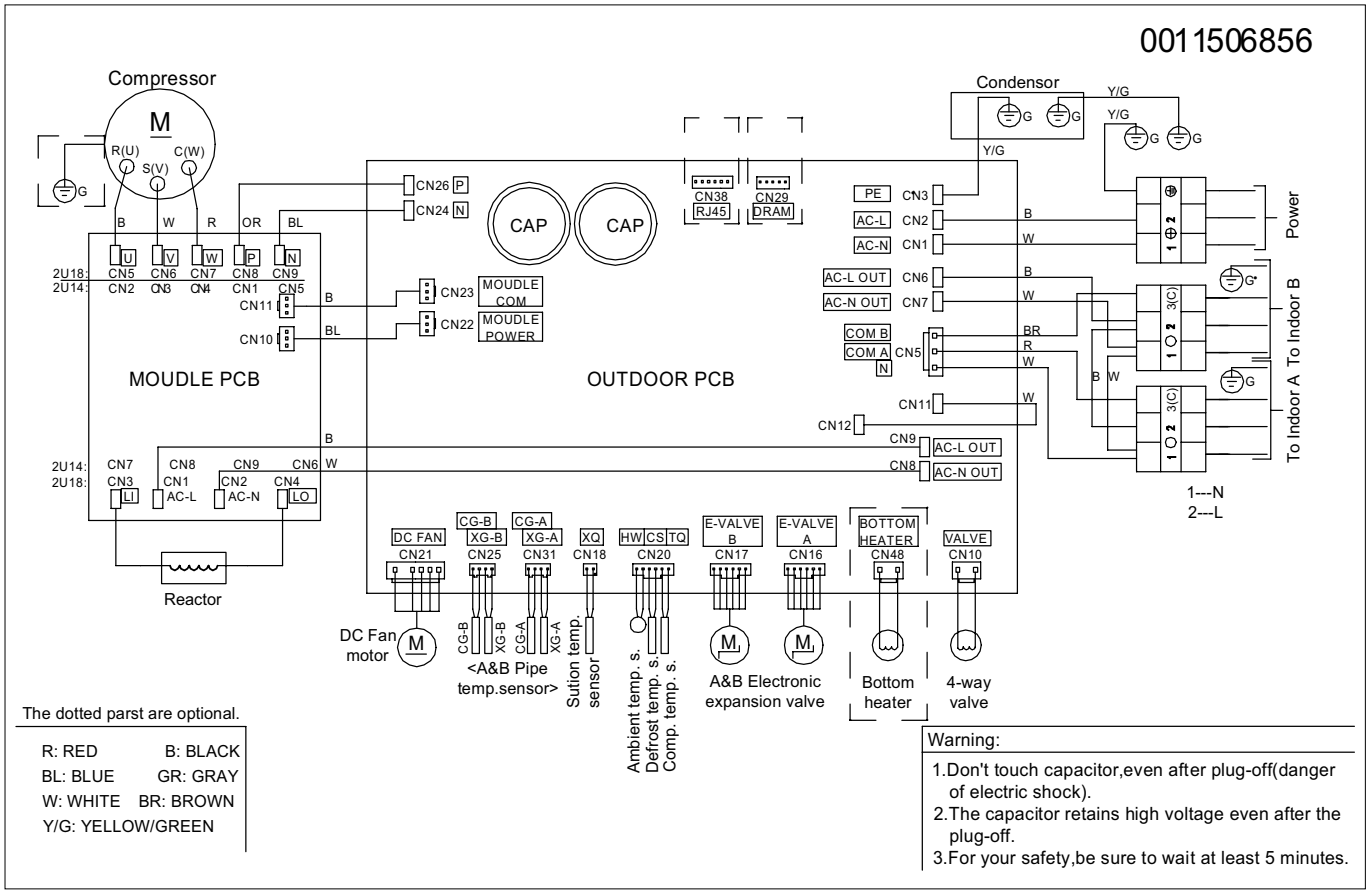
COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
					Flexis Unit						
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004							(flashing LED or display)	
0	7	07	7	E7	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
				E9 (wall only)	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
0	16	10	16	E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
0	12	0C	12	E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/problem in wiring between board and float		Indoor unit
0	1	01	1	E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	2	02	2	E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	13	0D	13	E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
0	4	04	4	E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
				E6				reversed phases protection	reversed phases		
0	8	08	8	E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
0	14	0E	14	E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		
2	1	15	21	F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Outdoor Unit
2	2	16	22	F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine	2	
2	3	17	23	F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
2	4	18	24	F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ ISPM power module	4	
2	5	19	25	F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
2	6	1A	26	F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
2	7	1B	27	F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
2	8	1C	28	F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
2	9	1D	29	F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
3	0	1E	30	F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
3	1	1F	31	F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
3	2	20	32	F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
3	3	21	33	F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
3	4	22	34	F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
3	6	24	36	F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
3	7	25	37	F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
3	8	26	38	F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
3	9	27	39	F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	

A: On S: Off L: Flashing ** Check DC motor control notes for models with fan motor in continuous current **OBSERVE

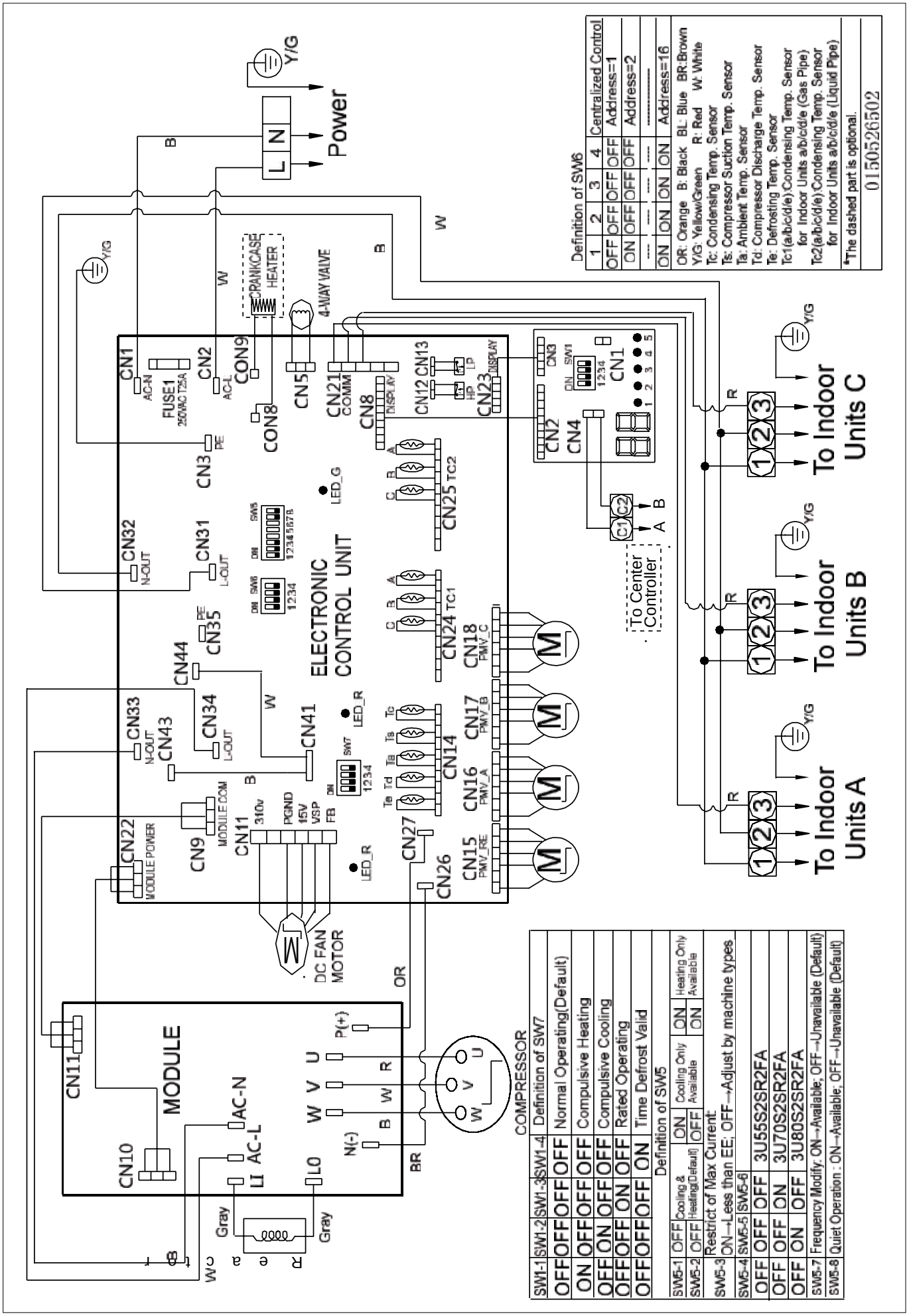
COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No of LED or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
4	0	28	40	F15				Board/terminal overheating protection	Short circuit / overheating on components	20	Outdoor Unit
4	3	2B	43	F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
4	4	2C	44	F2	S	L	A	Compressor overcurrent with increasing/decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
4	5	2D	45	F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
4	6	2E	46	F9				Reset	Reset the faulty system / power module	26	
4	7	2F	47	F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
4	8	30	48	F10				Gas pipe circuit "A" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	28	
4	9	31	49	F16				Gas pipe circuit "B" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	29	
5	0	32	50	F17				Gas pipe circuit "C" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	30	
5	1	33	51	F18				Gas pipe circuit "D" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	31	
5	2	34	52	F29				Liquid pipe circuit "A" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	32	
5	3	35	53	F30				Liquid pipe circuit "B" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	33	
5	4	36	54	F31				Liquid pipe circuit "C" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	34	
5	5	37	55	F32				Liquid pipe circuit "D" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	35	
5	6	38	56	F26				Liquid pipe circuit "E" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	36	
5	7		57	F34				Exchanger/internal temperature too low	Dirty filters / clogged exchanger	37	
5	8	3A	58	F35				Communication error between modules	Lack of communication for 2 minutes	38	
5	9	3B	59	F36				Piping temperature sensor "TC" faulty	Sensor disconnected, broken, or poorly positioned	39	
6	0	3C	60	F33				Gas pipe circuit "E" temperature sensor faulty	Sensor disconnected, broken, or poorly positioned	40	
6	1	3D	61	F38				Piping temperature sensor "TOCI" faulty	Sensor disconnected, broken, or poorly positioned	41	
6	2	3E	62	F39				High pressure alarm	High pressure switch unplugged/faulty/ excessive refrigerant	42	
6	3	3F	63	F40				Low pressure alarm	Low pressure switch unplugged/faulty/ lack of refrigerant	43	
6	4	40	64	F41				High-pressure protection	Operating pressure too high, heat exchange problems, excessive refrigerant	44	
6	5	41	65	F42				Low-pressure protection	Operating pressure too low, heat exchange problems, low refrigerant	45	
6	6	42	66	F43				Temperature sensor power module failure / indoor - outdoor unit communication protocol error	Sensor disconnected, faulty or poorly positioned / indoor - outdoor unit communication problem	46	

**A: On S: Off L: Flashing ** Check DC motor control notes for models with fan motor in continuous current

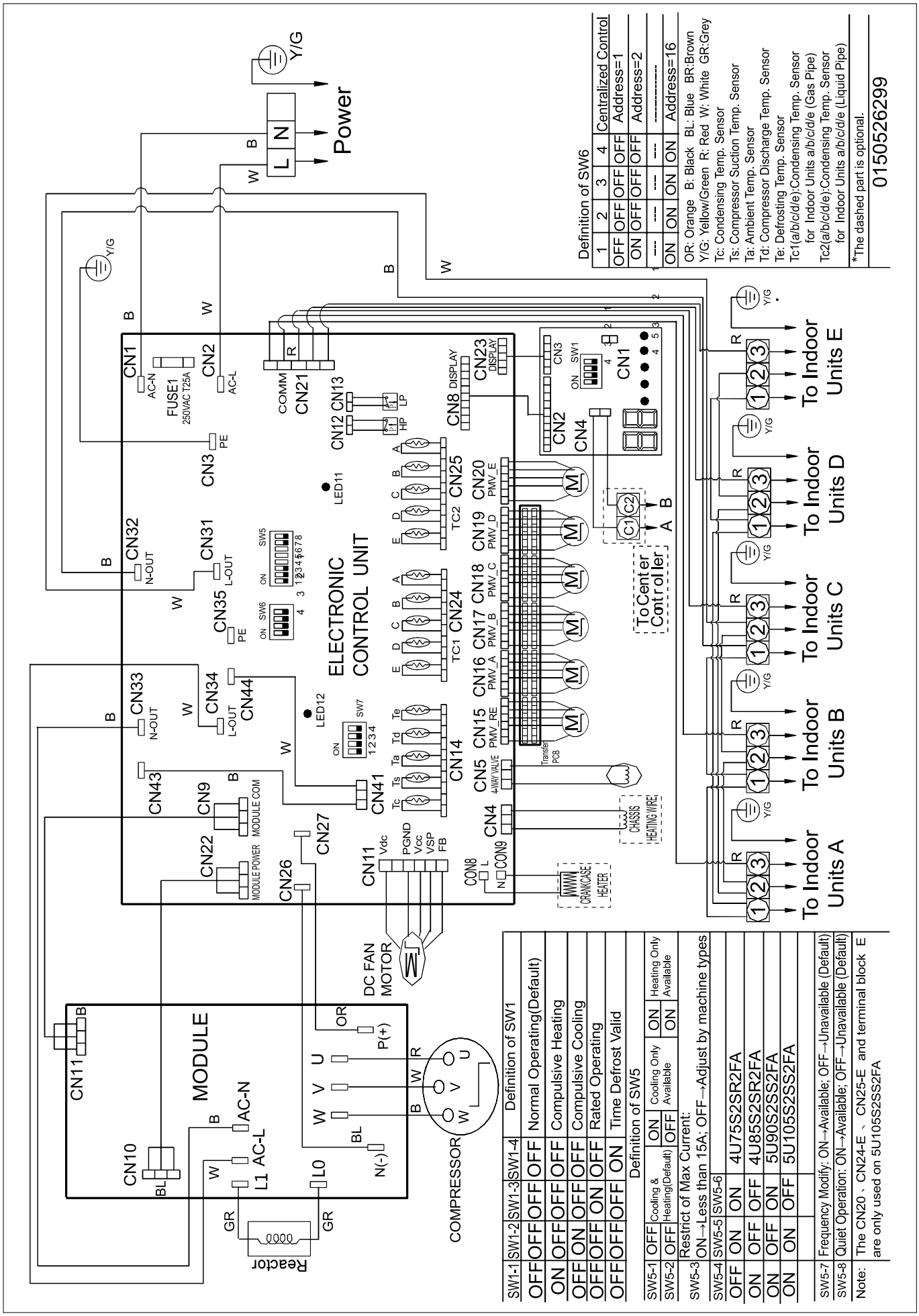
OU WIRING DIAGRAM 2U40S2SM1FA 4.0 kW - 2U50S2SM1FA 5.0 kW



OU WIRING DIAGRAM 3U55S2SR2FA 5.5 kW - 3U70S2SR2FA 7.0 kW



OU WIRING DIAGRAM 4U75S2SR2FA 7.5 kW - 4U85S2SR2FA 8.5 kW - 5U90S2SS2FA 9.0 kW - 5U105S2SS3FA 10.5 kW



OUTDOOR PCB SETTING 0151800364A (for 3U/4U/5U models):

The settings listed below are to be performed in the SW5 block of the PCB:

SW5								DESCRIPTION
1	2	3	4	5	6	7	8	
OFF	OFF	---	---	---	---	---	---	HEAT PUMP (default)
ON	OFF	---	---	---	---	---	---	COOLING-ONLY
ON	ON	---	---	---	---	---	---	HEAT PUMP ONLY
---	---	OFF	---	---	---	---	---	ABSORPTION ACCORDING TO PAIRING
---	---	ON	---	---	---	---	---	MAX 15A ABSORPTION
---	---	---	OFF	OFF	OFF	---	---	MODEL 3U55S2SR2FA
---	---	---	OFF	OFF	ON	---	---	MODEL 3U70S2SR2FA
---	---	---	OFF	ON	ON	---	---	MODEL 4U75S2SR2FA
---	---	---	ON	OFF	OFF	---	---	MODEL 4U85S2SR2FA
---	---	---	ON	OFF	ON	---	---	MODEL 5U90S2SS2FA
---	---	---	ON	ON	OFF	---	---	MODEL 5U105S2SS3FA
---	---	---	---	---	---	OFF	---	TEMPERATURE CORRECTION DISABLED (DEFAULT)
---	---	---	---	---	---	ON	---	TEMPERATURE CORRECTION ENABLED
---	---	---	---	---	---	---	OFF	QUIET MODE (OFF) DEFAULT
---	---	---	---	---	---	---	ON	QUIET MODE (ON)

Selecting the mode (SW5-1-2):

Selecting the default mode of operation: keep both selectors in OFF

Selecting the absorption limit (SW5-3):

The system has a limitation hat can lower the consumption of the device from the maximum reachable to the nominal. Raising the switch 3 of SW5 limits the absorption to a maximum of 15A.

Selecting the outdoor unit power (SW5-4-5-6):

Through switches 4-5-6 of SW5, it is possible to select the power and consequently the model of the outdoor unit where the PCB is to be applied.

Function not available (SW5-7):

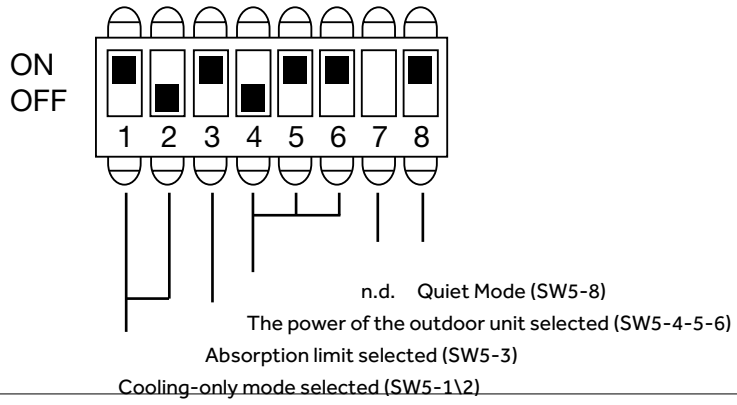
Function not available, keep the switch in OFF.

QUIET mode (SW5-8):

The QUIET function allows you to reduce the frequency of the compressor so that the compressor becomes quieter.

Settings example

SW5 setting



SW7				DESCRIPTION
1	2	3	4	
---	ON	ON	---	DEFROSTING THRESHOLD: 6°C
---	OFF	OFF	---	DEFROSTING THRESHOLD: 8°C (DEFAULT)

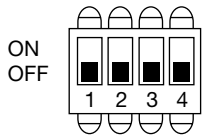
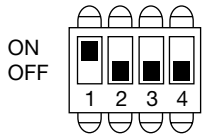
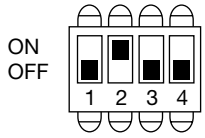
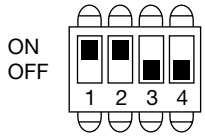
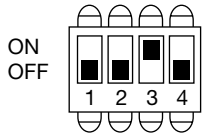
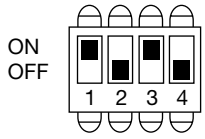
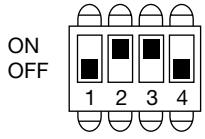
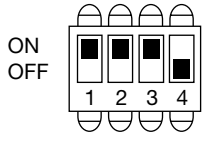
OUTDOOR UNIT ADDRESSING FOR PLANT MANAGEMENT VIA SW6 CENTRALISED CONTROLLER

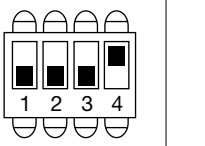
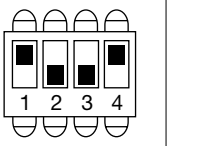
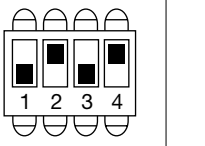
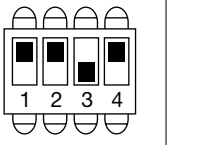
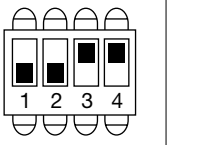
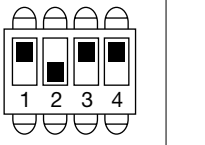
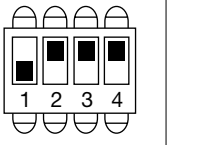
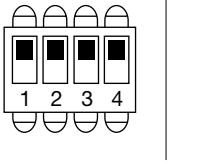
SW6 block of the main board of the outdoor unit is used to address indoor units in order to manage the plant by centralised controller (YCZ-A004 / YCZ-G001 / HC-SA164DBT).

The centralised controller reserves five indoor unit addresses for each connected outdoor unit (even if the outdoor has less than five couplings).

ATTENTION: **Two-coupling outdoor units 2U40S2SM1FA and 2U50S2SM1FA do not support centralised controllers YYCZ-A004 / YCZ-G001 / HC-SA164DBT.**

The setting to be performed is as follows:

OU NUMBER	SW6	IU ADDRESSES
1		1 to 5
2		6 to 10
3		11 to 15
4		16 to 20
5		21 to 25
6 **Limit for controller YCZ-G001**		26 to 30
7		31 to 35
8		36 to 40

OU NUMBER	SW6	IU ADDRESSES
9		41 to 45
10		46 to 50
11		51 to 55
12 **Limit for controller HC-SA164DBT**		56 to 60
13		61 to 65
14		66 to 70
15		71 to 75
16		76 to 80

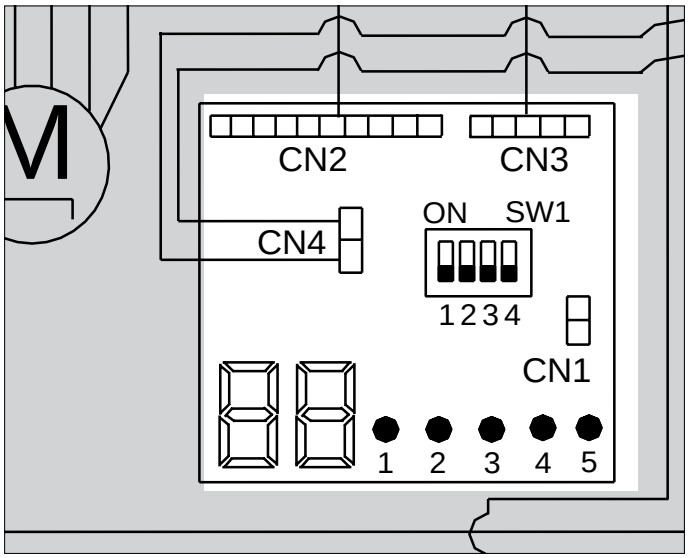
For the wiring diagram with YCZ-A004 interface, refer to the diagram on page 162.

For the wiring diagram with YCZ-G001 interface, refer to the diagram on page 166.

For the wiring diagram with HC-SA164DBT interface, refer to the diagram on page 171.

CONTROL VIA SW1

Settings for service board on outdoor 0151800076A



The settings listed below are to be performed in the SW1 block of the outdoor service board:

SW1	DESCRIPTION
ON OFF 1 2 3 4	DEFAULT SETTINGS NORMAL OPERATION
ON OFF 1 2 3 4	FORCED HEATING: 50HZ, outdoor fan in step 5, valve opening 200 °, the rest under normal conditions
ON OFF 1 2 3 4	FORCED COOLING: 60HZ, outdoor fan in step 7, valve opening 200 °, the rest under normal conditions
ON OFF 1 2 3 4	NOMINAL OPERATING LIMIT: limits the output of the unit to the respective rated power
ON OFF 1 2 3 4	FORCED DEFROST EVERY 50 MINUTES: The outdoor unit will perform a forced defrosting every 50 minutes if the outside ambient temperature is less than 7°C
ON OFF 1 2 3 4	INCORRECT WIRING TEST

Forcing the system (heating\cooling) (SW1-1\2):

The system has the ability to be forced into both cooling and heat pump via switches 1 and 2 of SW1.

- Raising switch 1 forces the plant into "Heat Pump"
- Raising the switch 2 forces the plant into "Cooling"

When performing this forced operation, the indoor units will start automatically, make sure before forcing the system that the indoor units are turned off.

Wrong wiring test (SW1-1\2\3\4)

To perform the "WRONG WIRING TEST" you have to place the dip switches of the SW1 block all to "ON" before powering on the system, so as to prevent other settings (e.g. FORCED COOLING).

The indoor units automatically turn on in cooling mode, the abbreviation "CH" starts flashing on the outdoor unit's display.

The outdoor unit opens the expansion valves one at a time and compares the data that the indoor units detect, so that you can see if the refrigerant passage occurs on the unit “A”, “B” and so on, to find the discrepancies between electrical connection and refrigerant connection and notify the user.

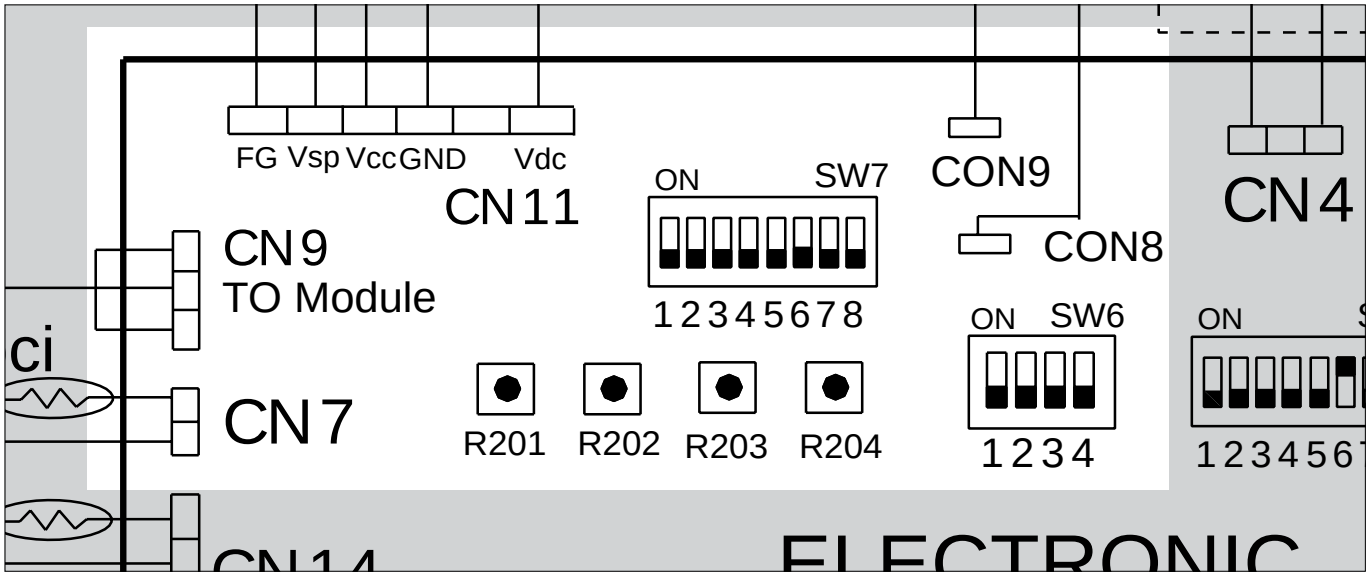
With regard to the test on the 3U55S2SR2FA unit, after about 20 minutes of operation, there is already a signal for incorrect wiring, with a flashing of the LEDs (of the service board) corresponding to the inverted indoor units.

After about 30 minutes the test cycle ends, the system automatically shuts down.

In the case of inversion of wiring, the abbreviation "EC" appears on the display of the service board and LEDs corresponding to the inverted internal units flash.

For models with multiple couplings, the test times are slightly longer, about 10 minutes per indoor unit.

MANUAL TEST MODE



Reading data

In the forced operation modes of the unit, both heat pump and cooling can be manually accessed and adjusted in the unit settings. Using the selection keys listed below you can enter the various menus to change the parameters. With DEFAULT settings, you have access to the read-only parameters, but you cannot make any adjustments.

In DEFAULT mode (NORMAL OPERATION) only parameters A0 and A9 can be displayed

Selection buttons:

- The "R201" button on the PCB is used to increase the adjustment steps;
- The "R202" button on the PCB is used to decrease the adjustment steps;
- The "R203" button on the PCB is used to confirm the selected menu;
- The button "R204" on the PCB is used to switch between functions (from function "A0" to function "A9").

Unit control

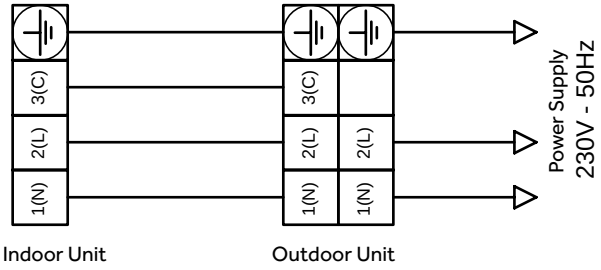
In Forced Mode, pressing the "R204" button accesses all the underlying functions. The "R201" and "R202" buttons change the operating parameters:

"A0"	Indoor Diagnostics The alarm list of connected indoor units is available;
"A1"	Outdoor fan motor speed You can test and adjust the speed of the outdoor fan in steps (steps range from 0 to 7);
"A2"	Compressor Frequency You can test and adjust the frequency of the compressor in steps (the frequency rises up to a maximum of 130Hz);
"A3"	Expansion valve opening "A" You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A4"	Expansion valve opening "B" You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A5"	Expansion valve opening "C" You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A6"	Expansion valve opening "D" You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A7"	Expansion valve opening "E" You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A8"	Expansion valve opening "F" (PMV_RE) You can test and adjust the opening of expansion valve in degrees (from a minimum of 5° to 500°);
"A9"	Outdoor Diagnostics A list of the last 5 alarms related to the outdoor unit is available.

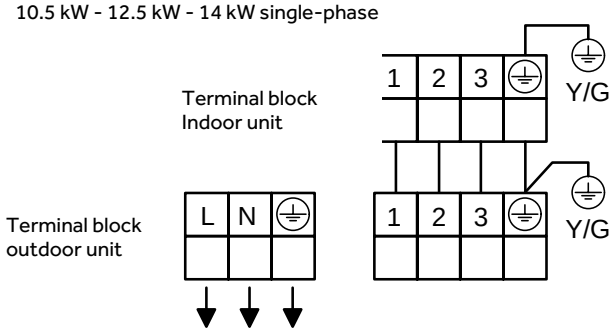
1U25S2SM1FA 2.5 kW
1U35S2SM1FA 3.5 kW
1U42S2SM1FA 4.2 kW
1U50S2SJ2FA 5.0 kW
1U71S2SG1FA 7.1 kW
1U105S2SSS1FA 10.5 kW
1U105S2SS1FB 10.5 kW (three-phase)
1U125S2SN1FA 12.5 kW (single-phase)
1U125S2SN1FB (three-phase)
1U140S2SP1FA (single-phase)
1U140S2SP1FB (three-phase)

WIRING DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW - 7.1 kW - 10.5 kW - 12.5 kW - 14.0 kW -20 kW - 25 kW

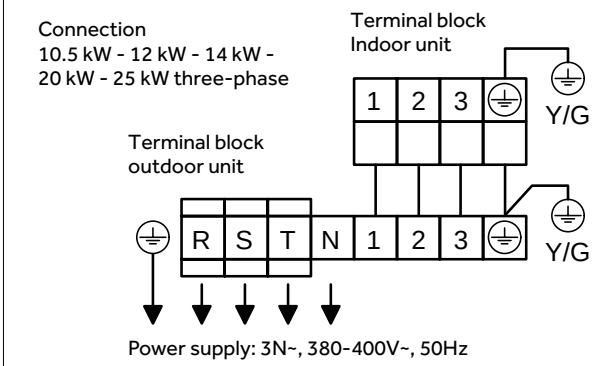
Connection
2.5 kW - 3.5 kW - 5.0 kW - 7.1 kW single-phase



Connection
10.5 kW - 12.5 kW - 14 kW single-phase



Connection
10.5 kW - 12 kW - 14 kW -
20 kW - 25 kW three-phase



OUTDOOR UNIT	Model		1U25S2SM1FA	1U35S2SM1FA	1U42S2SM1FA	1U50S2SJ2FA	1U71S2SG1FA
Outdoor unit technical data							
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35	9.52
Gas pipe Ø		mm	9.52	9.52	9.52	12.7	15.88
Standard pipe length without refrigerant charge		m	7	7	7	7	7
Maximum pipe length		m	15	15	25	25	25
Maximum IU - OU elevation		m	10	10	15	15	15
Refrigerant charge in the factory		kg	0.65	0.94	0.94	0.95	1.3
Equivalent tons of CO^2		kg/TCO_2EQ	0.44	0.63	0.64	0.64	0.87
Additional refrigerant charge beyond standard length		g/m	20	20	20	20	45
Dimensions	WxDxH	mm	800x280x550	800x280x550	800x280x550	820x338x614	860x308x730
Net weight		kg	29	31.5	31.5	37.8	49
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G1.5	3G1.5	3G2.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5

OUTDOOR UNIT	Model		1U105S2SS1FA	1U105S2SS1FB	1U125S2SN1FA	1U125S2SN1FB	1U140S2SP1FA	1U140S2SP1FB
Outdoor unit technical data								
Liquid pipe Ø		mm	9.52	9.52	9.52	9.52	9.52	9.52
Gas pipe Ø		mm	15.88	15.88	15.88	15.88	15.88	15.88
Standard pipe length without refrigerant charge		m	10	30	30	30	30	30
Maximum pipe length		m	50	50	50	50	50	75
Maximum IU - OU elevation		m	30	30	30	30	30	30
Refrigerant charge in the factory		kg	1.3	1.5	1.5	2	2	2.9
Equivalent tons of CO^2		kg/TCO_2EQ	0.88	0.87	0.87	1.3	1.3	1.9
Additional refrigerant charge beyond standard length		g/m	45	45	45	45	45	45
Dimensions	WxDxH	mm	860x308x730	920x372x760	920x372x760	965x370x950	965x370x950	1350x370x950
Net weight		kg	48	60	60	82	83	105
Power Supply		V-Ph-Hz	230-1-50	380-400-3N-50	230-1-50	380-400-3N-50	230-1-50	380-400-3N-50
Outdoor unit power cable		mm^2	3G4	3G4	3G4	5G2.5	3G4	5G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5

MONO DIAGNOSTICS

COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
0	7	07	7	E7 (E9 column models)	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
				E9 (wall only)	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
0	16	10	16	E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
0	12	0C	12	E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/ problem in wiring between board and float		Unit Indoor
0	1	01	1	E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	2	02	2	E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	13	0D	13	E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
0	4	04	4	E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
				E6				Reverse phase protection / high - low pressure	Reverse phase protection /high - low pressure		
0	8	08	8	E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
0	14	0E	14	E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		
2	1	15	21	F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Outdoor Unit
2	2	16	22	F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine	2	
2	3	17	23	F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
2	4	18	24	F3	S	L	S	Communication error between main PCB and SPDU/ ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
2	5	19	25	F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
2	6	1A	26	F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
2	7	1B	27	F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
2	8	1C	28	F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
2	9	1D	29	F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
3	0	1E	30	F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
3	1	1F	31	F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
3	2	20	32	F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
3	3	21	33	F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
3	4	22	34	F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
3	6	24	36	F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	

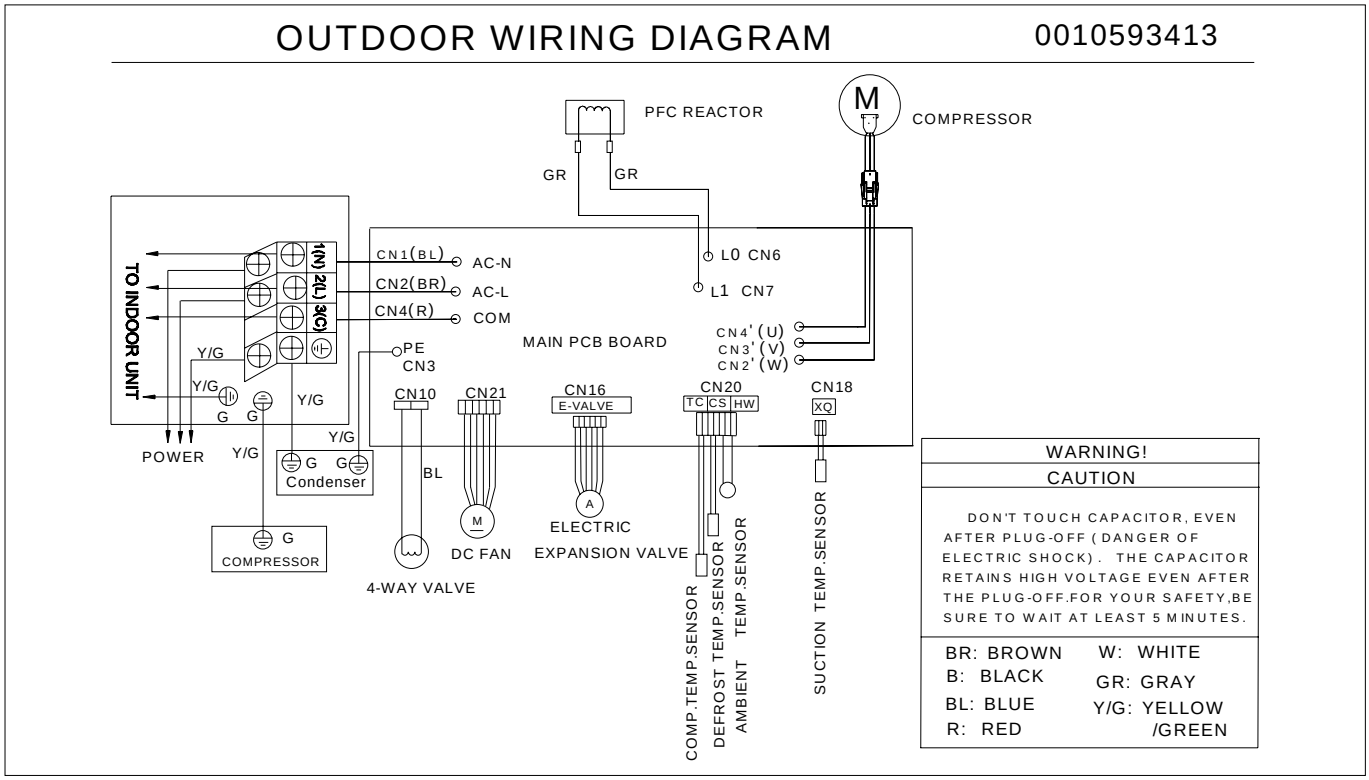
*A: On S: Off L: Flashing ** Check notes for DC motor control

OBSERVE

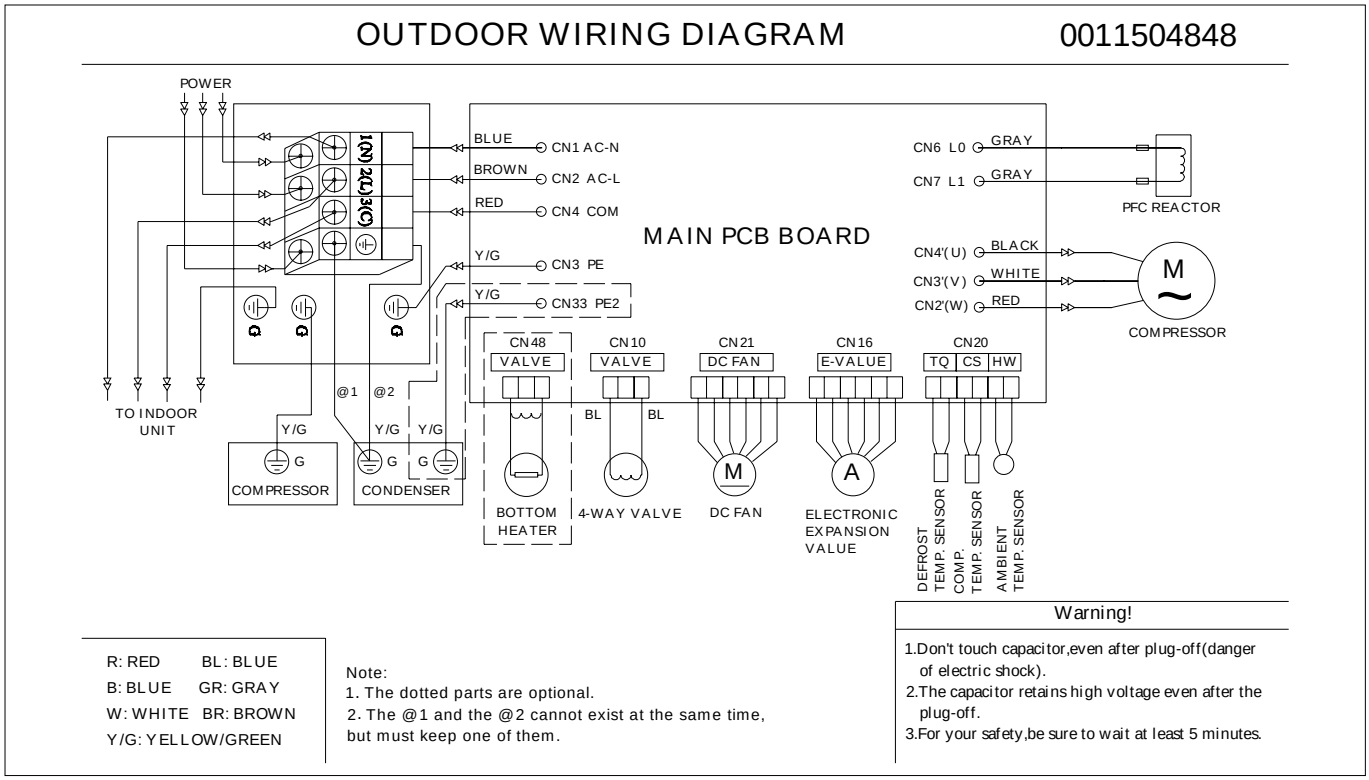
COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004							(flashing LED or display)	
3	7	25	37	F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	Outdoor Unit
3	8	26	38	F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
3	9	27	39	F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
4	0	28	40	F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
4	3	2B	43	F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
4	4	2C	44	F2	S	L	A	Compressor overcurrent with increasing/decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
4	5	2D	45	F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
4	6	2E	46	F9				Reset	Reset the faulty system / power module	26	
4	7	2F	47	F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
4	8	30	48					Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
4	9	31	49					Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	
5	8	3A	58	F35				Communication error between modules	Lack of communication for 2 minutes	38	
5	9	3B	59	F36				Piping temperature sensor "TC" faulty	Sensor disconnected, broken, or poorly positioned	39	
6	2	3E	62	F39				High pressure alarm	High pressure switch unplugged/ faulty/excessive refrigerant	42	
6	3	3F	63	F40				Low pressure alarm	Low pressure switch unplugged/ faulty/lack of refrigerant	43	
6	4	40	64	F41				High-pressure protection	Operating pressure too high, heat exchange problems, excessive refrigerant	44	
6	5	41	65	F42				Low-pressure protection	Operating pressure too low, heat exchange problems, low refrigerant	45	
6	6	42	66	F43				Temperature sensor power module failure / indoor - outdoor unit communication protocol error	Sensor disconnected, faulty or poorly positioned / indoor - outdoor unit communication problem	46	

*A: On S: Off L: Flashing ** Check notes for DC motor control

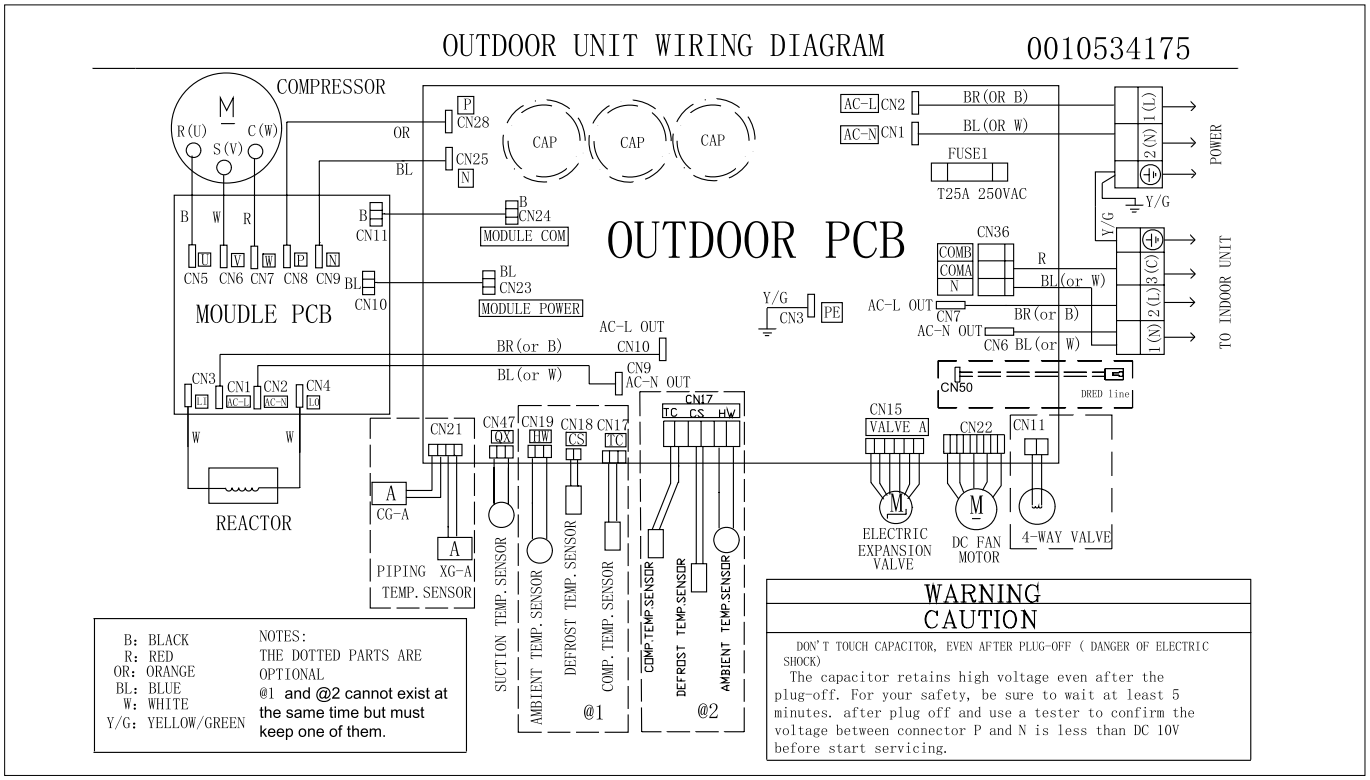
OU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW



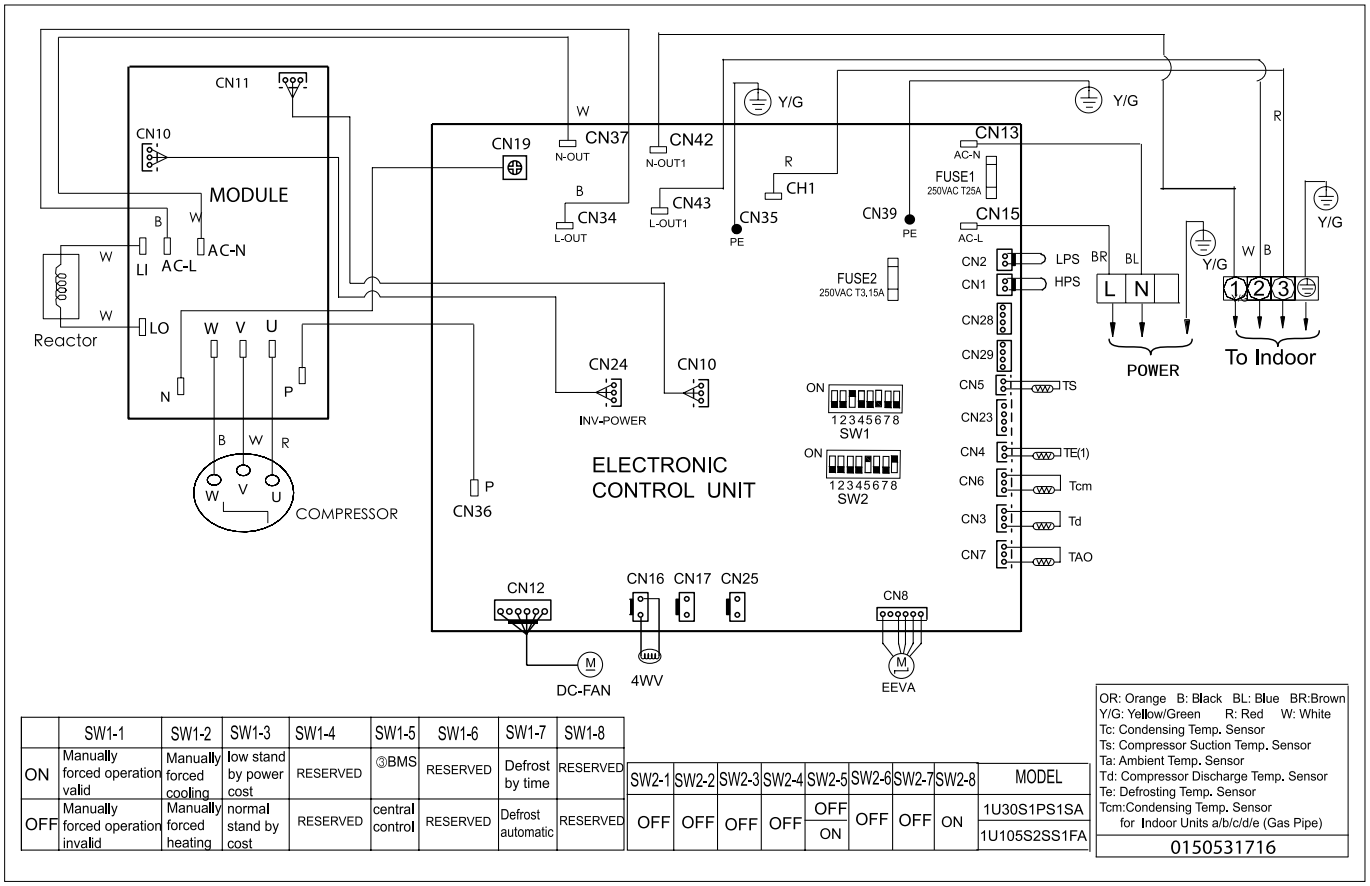
OU CIRCUIT DIAGRAM 4.2 kW



OU CIRCUIT DIAGRAM 5.0 kW - 7.1 kW



OU CIRCUIT DIAGRAM 10.5 kW single-phase



	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
ON	Manually forced operation valid	Manually forced cooling	low stand by power cost	RESERVED	③BMS	RESERVED	Defrost by time	RESERVED
OFF	Manually forced operation invalid	Manually forced heating	normal stand by cost	RESERVED	central control	RESERVED	Defrost automatic	RESERVED

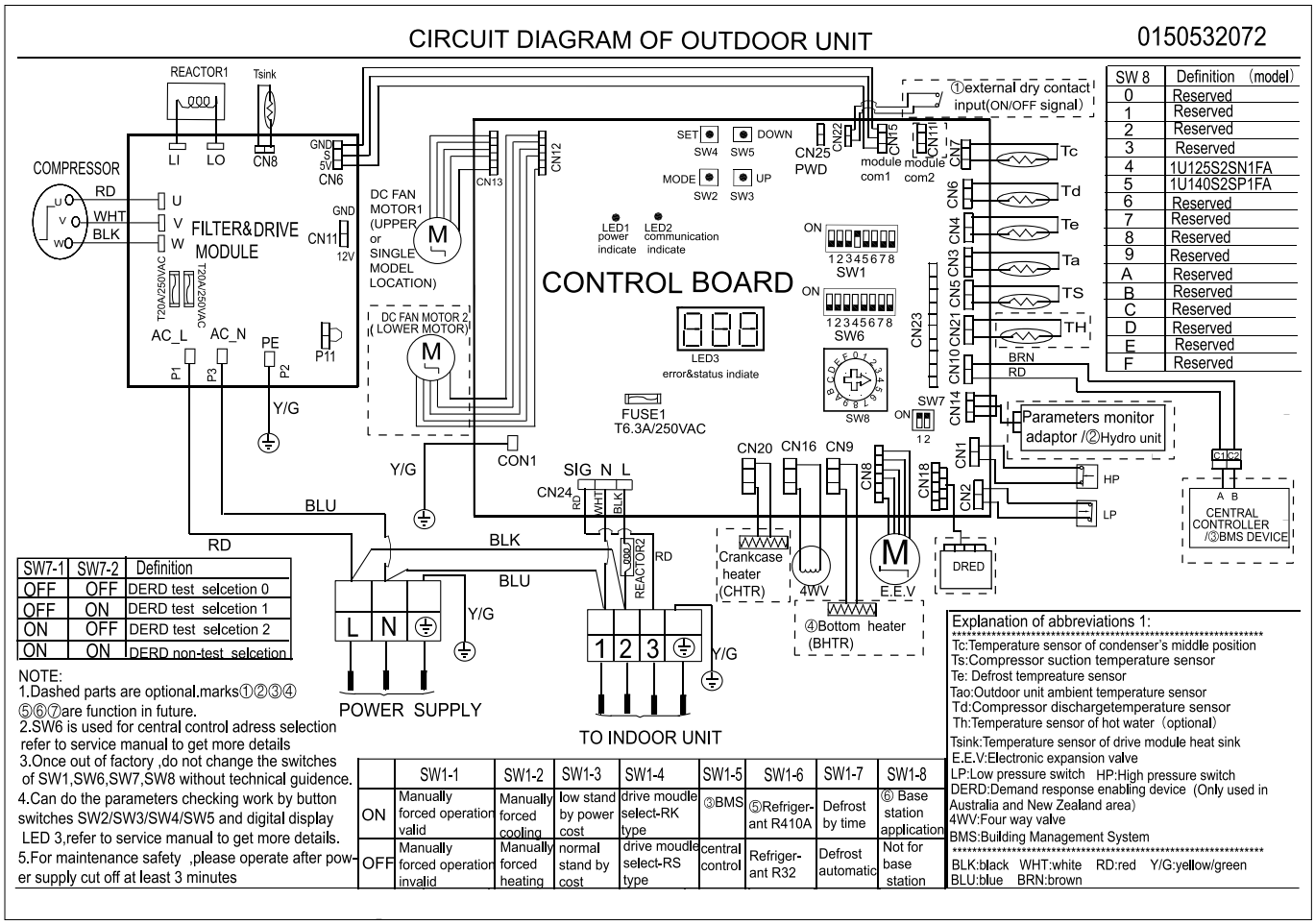
SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8	MODEL
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	1U30S1PS1SA
				ON				1U105S2SS1FA

OU SETTINGS 10.5 kW single-phase

SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**DESCRIPTION**
ON	-	-	-	-	-	-	-	Forced mode enabled
OFF	-	-	-	-	-	-	-	Force mode disabled
-	ON	-	-	-	-	-	-	Forced heat pump
-	OFF	-	-	-	-	-	-	Forced cooling
-	-	ON	-	-	-	-	-	Low consumption stand by
-	-	OFF	-	-	-	-	-	Normal consumption stand by
-	-	-	ON	-	-	-	-	N.D.
-	-	-	OFF	-	-	-	-	N.D. (DEFAULT)
-	-	-	-	ON	-	-	-	Connection to BMS system
-	-	-	-	OFF	-	-	-	Connection to centralised controller
-	-	-	-	-	ON	-	-	N.D.
-	-	-	-	-	OFF	-	-	N.D. (DEFAULT)
-	-	-	-	-	-	ON	-	Timed defrosting
-	-	-	-	-	-	OFF	-	Automatic defrosting
-	-	-	-	-	-	-	ON	N.D.
-	-	-	-	-	-	-	OFF	N.D. (DEFAULT)

SW2 SWITCHES								
SW2-1	**SW2-2**	**SW2-3**	**SW2-4**	**SW2-5**	**SW2-6**	**SW2-7**	**SW2-8**	**DESCRIPTION**
OFF	OFF	OFF	OFF	ON	OFF	OFF	ON	1U105S2SS1FA

OU CIRCUIT DIAGRAM 12.5 kW - 14 kW single-phase



SW 8	Definition (model)
0	Reserved
1	Reserved
2	Reserved
3	Reserved
4	1U125S2SN1FA
5	1U140S2SP1FA
6	Reserved
7	Reserved
8	Reserved
9	Reserved
A	Reserved
B	Reserved
C	Reserved
D	Reserved
E	Reserved
F	Reserved

SW7-1	SW7-2	Definition
OFF	OFF	DERD test selcetion 0
OFF	ON	DERD test selcetion 1
ON	OFF	DERD test selcetion 2
ON	ON	DERD non-test selcetion

	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
ON	Manually forced operation valid	Manually forced cooling	low stand by power cost	drive moudle select-RK type	③BMS	⑤Refriger-ant R410A	Defrost by time	⑥ Base station application
OFF	Manually forced operation invalid	Manually forced heating	normal stand by cost	drive moudle select-RS type	central control	Refriger-ant R32	Defrost automatic	Not for base station

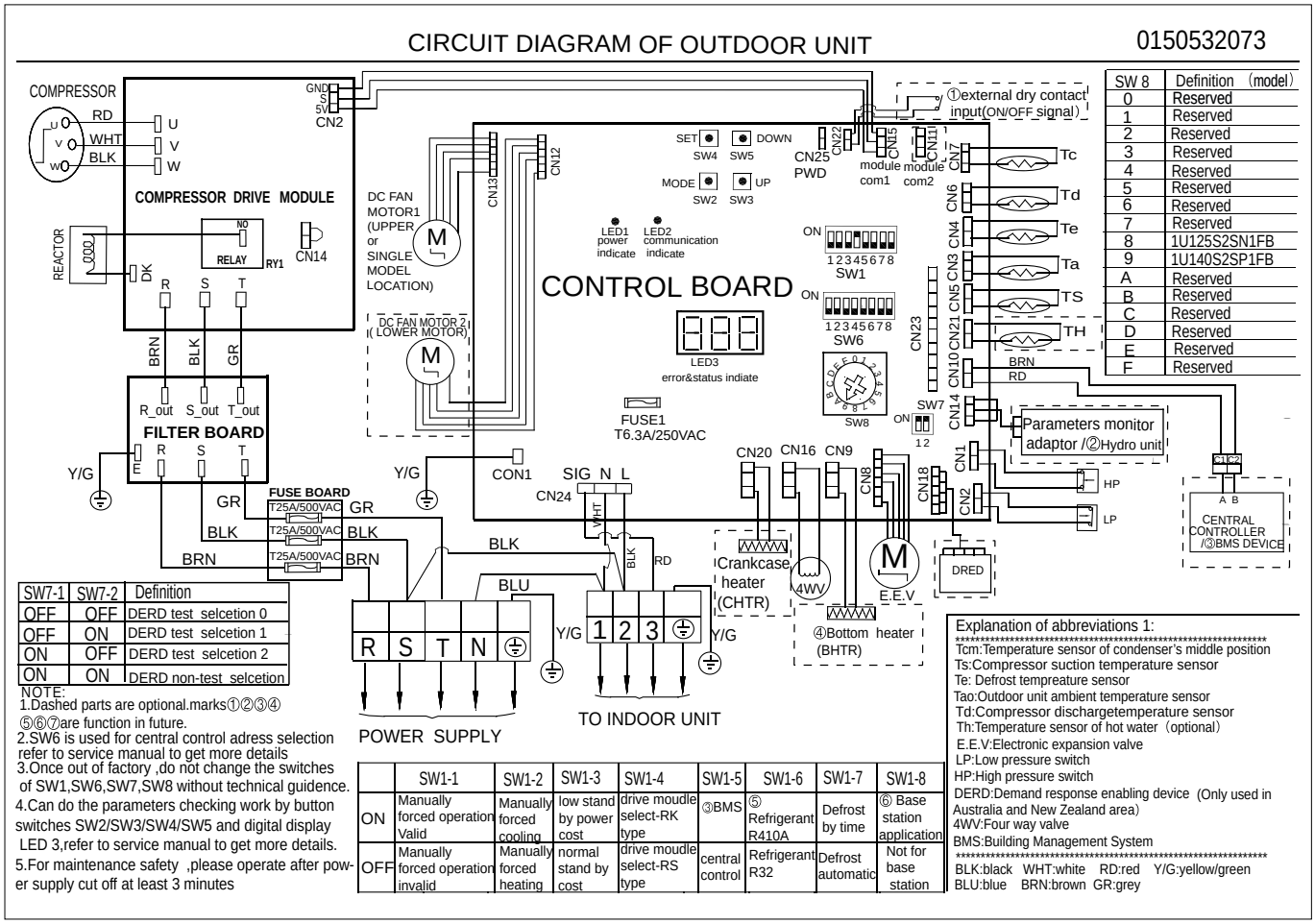
OU SETTINGS 12.5 kW - 14kW single-phase

SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**DESCRIPTION**
ON	-	-	-	-	-	-	-	Forced mode enabled
OFF	-	-	-	-	-	-	-	Force mode disabled
-	ON	-	-	-	-	-	-	Forced heat pump
-	**OFF**	-	-	-	-	-	-	Forced cooling
-	-	ON	-	-	-	-	-	Low consumption stand by
-	-	**OFF**	-	-	-	-	-	Normal consumption stand by
-	-	-	**ON**	-	-	-	-	RK series power module - DEFAULT
-	-	-	OFF	-	-	-	-	RS series power module
-	-	-	-	ON	-	-	-	Connection to BMS system
-	-	-	-	**OFF**	-	-	-	Connection to centralised controller
-	-	-	-	-	ON	-	-	R410A refrigerant
-	-	-	-	-	**OFF**	-	-	R32 refrigerant - DEFAULT
-	-	-	-	-	-	ON	-	Timed defrosting
-	-	-	-	-	-	**OFF**	-	Automatic defrosting
-	-	-	-	-	-	-	ON	N.D.
-	-	-	-	-	-	-	**OFF**	N.D. (DEFAULT)

SW6 SWITCHES Address to centralised controller / BMS								
SW6-1	**SW6-2**	**SW6-3**	**SW6-4**	**SW6-5**	**SW6-6**	**SW6-7**	**SW6-8**	**DESCRIPTION**
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Address No. 1
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	Address No. 2
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	Address No. 3
OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	Address No. 4
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	Address No. 5
-	-	-	-	-	-	-	-	Address No. --
ON	ON	ON	ON	ON	ON	ON	ON	Address No. 128

SW7 SWITCHES		
SW7-1	**SW7-2**	**DESCRIPTION**
ON	ON	N.D. - DEFAULT

OU CIRCUIT DIAGRAM 12.5 kW - 14 kW three-phase



OU SETTINGS 12.5 kW - 14 kW three-phase

SW1 SWITCHES								
SW1-1	**SW1-2**	**SW1-3**	**SW1-4**	**SW1-5**	**SW1-6**	**SW1-7**	**SW1-8**	**DESCRIPTION**
ON	-	-	-	-	-	-	-	Forced mode enabled
OFF	-	-	-	-	-	-	-	Force mode disabled
-	ON	-	-	-	-	-	-	Forced heat pump
-	OFF	-	-	-	-	-	-	Forced cooling
-	-	ON	-	-	-	-	-	Low consumption stand by
-	-	OFF	-	-	-	-	-	Normal consumption stand by
-	-	-	ON	-	-	-	-	RK series power module - DEFAULT
-	-	-	OFF	-	-	-	-	RS series power module
-	-	-	-	ON	-	-	-	Connection to BMS system
-	-	-	-	OFF	-	-	-	Connection to centralised controller
-	-	-	-	-	ON	-	-	R410A refrigerant
-	-	-	-	-	OFF	-	-	R32 refrigerant - DEFAULT
-	-	-	-	-	-	ON	-	Timed defrosting
-	-	-	-	-	-	OFF	-	Automatic defrosting
-	-	-	-	-	-	-	ON	N.D.
-	-	-	-	-	-	-	OFF	N.D. (DEFAULT)

SW8 SWITCHES	
SW8	**DESCRIPTION**
0	N.D.
1	N.D.
2	N.D.
3	N.D.
4	**1U125S2SN1FA**
5	**1U140S2SP1FA**
6	N.D.
7	N.D.
8	**1U125S2SN1FB**
9	**1U140S2SP1FB**
A	N.D.
B	N.D.
C	N.D.
D	N.D.
E	N.D.
F	N.D.

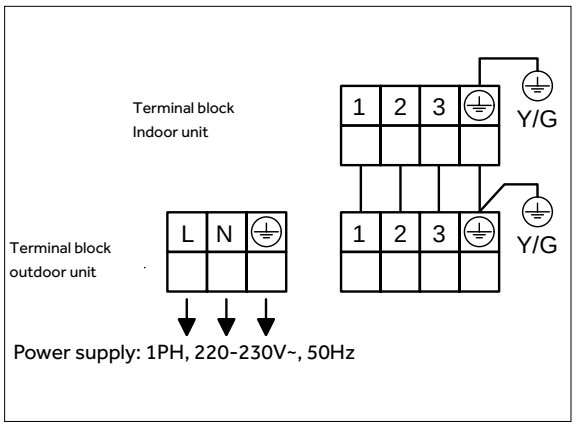
SW6 SWITCHES Address to centralised controller / BMS								
SW6-1	**SW6-2**	**SW6-3**	**SW6-4**	**SW6-5**	**SW6-6**	**SW6-7**	**SW6-8**	**DESCRIPTION**
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Address No. 1
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	Address No. 2
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	Address No. 3
OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	Address No. 4
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	Address No. 5
-	-	-	-	-	-	-	-	Address No. --
ON	ON	ON	ON	ON	ON	ON	ON	Address No. 128

SW7 SWITCHES		
SW7-1	**SW7-2**	**DESCRIPTION**
ON	ON	N.D. - DEFAULT

1U28GS2ERA(S) (28K)

1U36HS1ERA(S) (36K)

WIRING DIAGRAM 28K - 36K



OUTDOOR UNIT	Model		1U28GS2ERA(S)	1U36HS1ERA(S)
Outdoor unit technical data				
Liquid pipe Ø		mm	9.52	9.52
Gas pipe Ø		mm	15.88	15.88
Standard pipe length without refrigerant charge		m	7	20
Maximum pipe length		m	30	30
Maximum IU - OU elevation		m	20	20
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	2.0 / 4.10	2.5 / 5.20
Additional refrigerant charge beyond standard length		g/m	46	46
Dimensions	WxDxH	mm	860x308x730	948x340x840
Net weight		kg	50.2	64
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G4	3G4
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5

DIAGNOSTICS

28K (1U28GS2ERA(S) - 36K 1U36HS1ERA(S)

COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
0	7	07	7	E7 (E9 column models)	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Unit Indoor - Outdoor
				E9 (wall only)	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
0	16	10	16	E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
0	12	0C	12	E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/problem in wiring between board and float		Unit Indoor
0	1	01	1	E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	2	02	2	E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	13	0D	13	E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
0	4	04	4	E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
				E6				Reverse phase protection /high - low pressure	Reverse phase protection /high - low pressure		
0	8	08	8	E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
0	14	0E	14	E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		
2	1	15	21	F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Outdoor Unit
2	2	16	22	F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine	2	
2	3	17	23	F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
2	4	18	24	F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
2	5	19	25	F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
2	6	1A	26	F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
2	7	1B	27	F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
2	8	1C	28	F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
2	9	1D	29	F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	

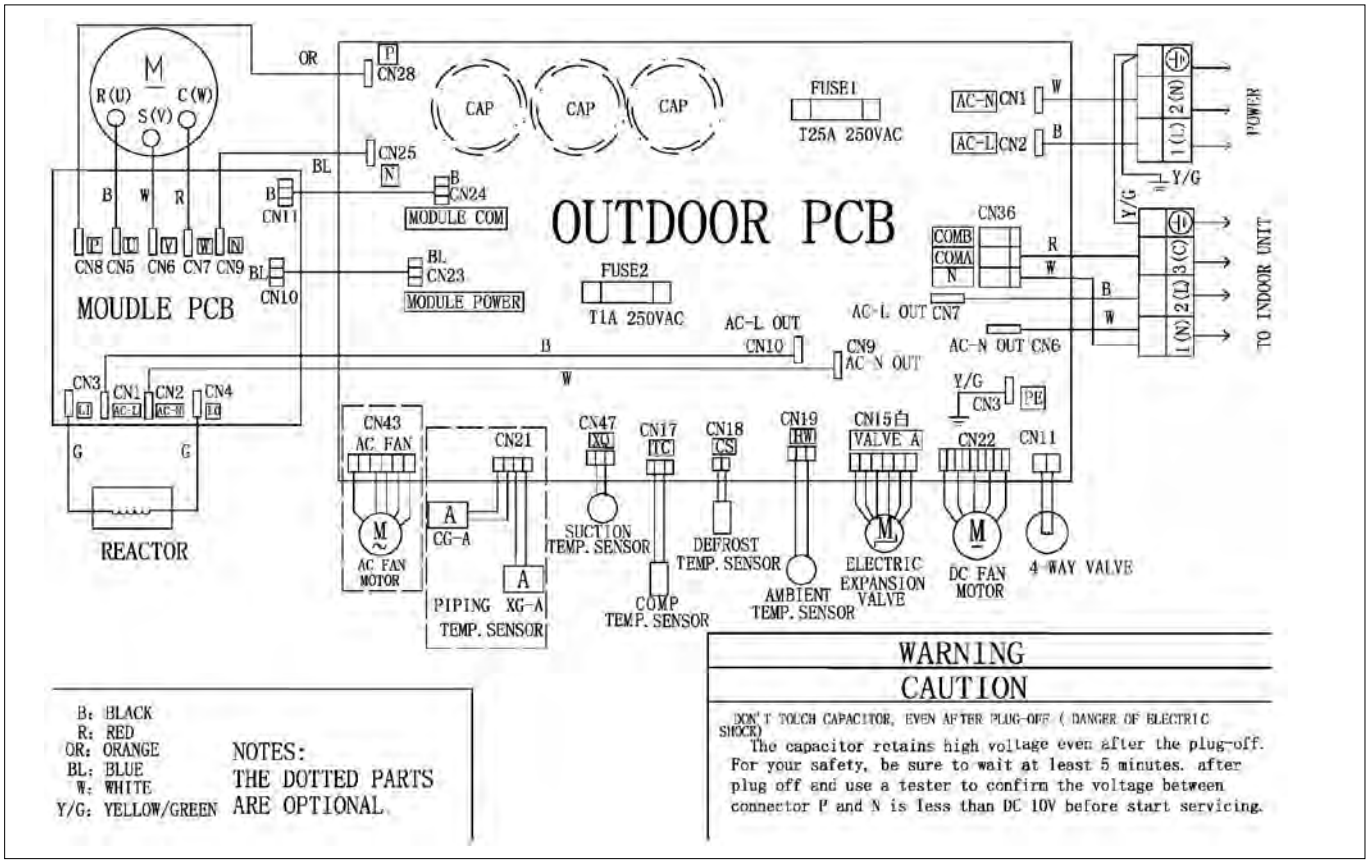
*A: On S: Off L: Flashing ** Check notes for DC motor control

OBSERVE

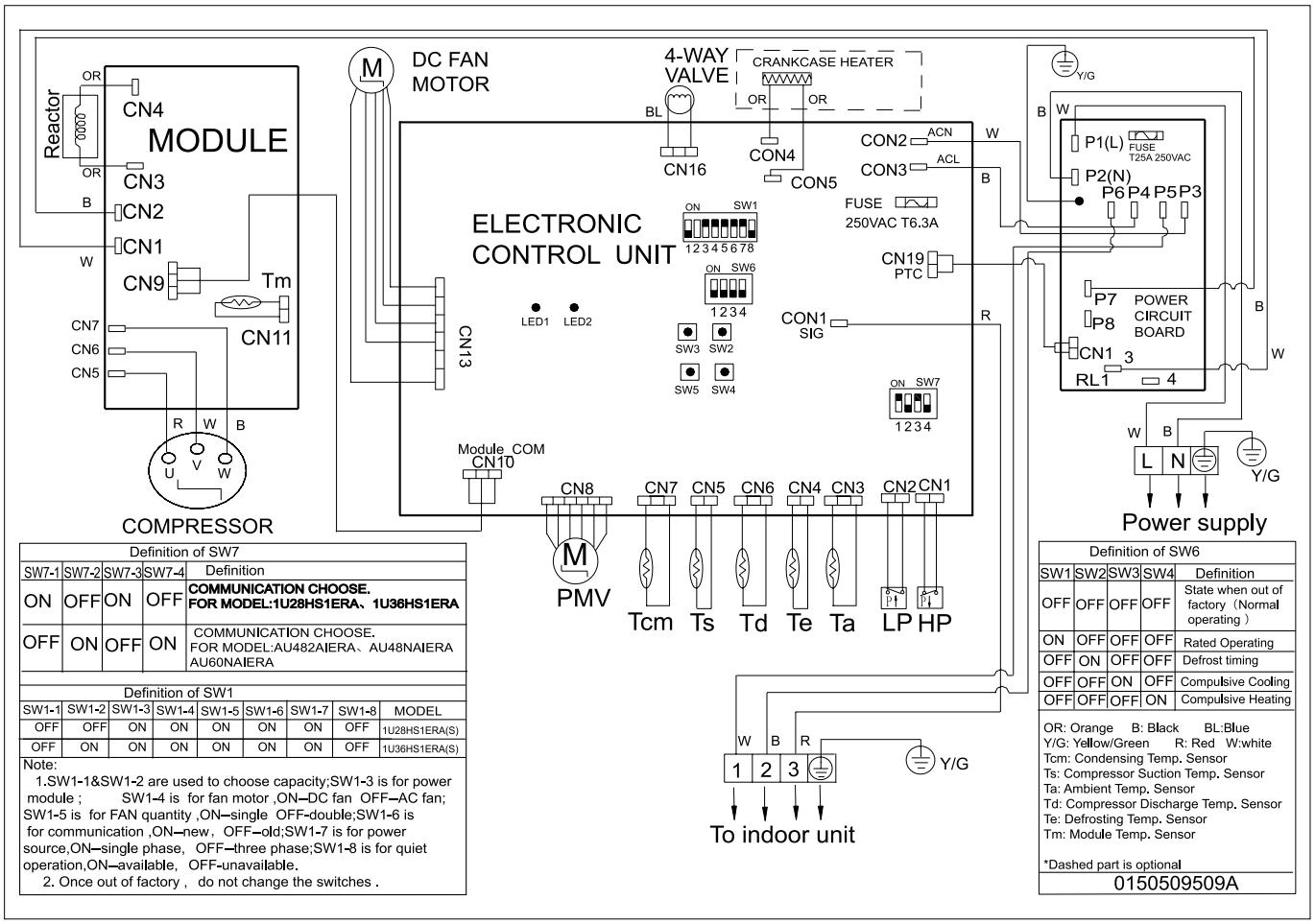
COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
3	0	1E	30	F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	Outdoor Unit
3	1	1F	31	F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
3	2	20	32	F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
3	3	21	33	F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
3	4	22	34	F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
3	6	24	36	F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
3	7	25	37	F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
3	8	26	38	F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
3	9	27	39	F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
4	0	28	40	F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
4	3	2B	43	F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
4	4	2C	44	F2	S	L	A	Compressor overcurrent with increasing/decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
4	5	2D	45	F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
4	6	2E	46	F9				Reset	Reset the faulty system / power module	26	
4	7	2F	47	F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
4	8	30	48					Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
4	9	31	49					Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	
5	8	3A	58	F35				Communication error between modules	Lack of communication for 2 minutes	38	
5	9	3B	59	F36				Piping temperature sensor "TC" faulty	Sensor disconnected, broken, or poorly positioned	39	
6	2	3E	62	F39				High pressure alarm	High pressure switch unplugged/ faulty/excessive refrigerant	42	
6	3	3F	63	F40				Low pressure alarm	Low pressure switch unplugged/ faulty/lack of refrigerant	43	
6	4	40	64	F41				High-pressure protection	Operating pressure too high, heat exchange problems, excessive refrigerant	44	
6	5	41	65	F42				Low-pressure protection	Operating pressure too low, heat exchange problems, low refrigerant	45	
6	6	42	66	F43				Temperature sensor power module failure / indoor - outdoor unit communication protocol error	Sensor disconnected, faulty or poorly positioned / indoor - outdoor unit communication problem	46	

*A: On S: Off L: Flashing ** Check notes for DC motor control

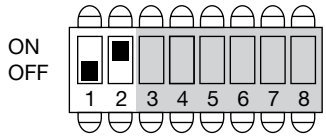
OU CIRCUIT DIAGRAM 28K

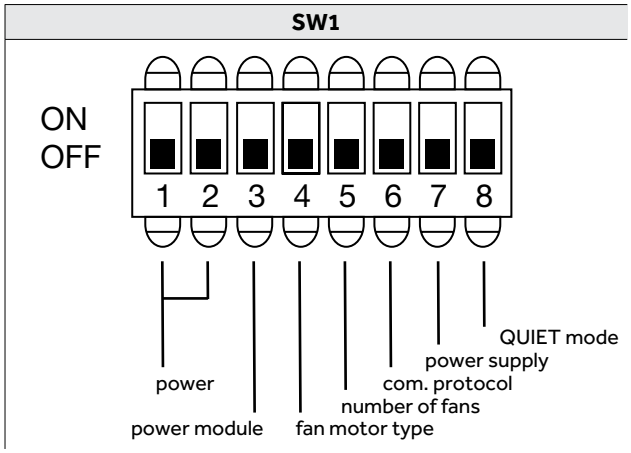


OU CIRCUIT DIAGRAM 36K



OU SETTINGS 36K

Table 1	
SW1	**CAPACITY Btu**
	36000



Note:
Always check to set the respective capacity shown in the rating plate data of the indoor unit.

Selecting the operating mode					
SW6	**1**	**2**	**3**	**4**	**Mode**
	OFF	-	-	-	**Normal operation**
	ON	-	-	-	**Nominal power limit**
	-	OFF	-	-	**Normal operation**
	-	ON	-	-	**Forced defrosting**
	-	-	OFF	-	**Normal operation**
	-	-	ON	-	**Forced cooling**
	-	-	-	OFF	**Normal operation**
	-	-	-	ON	**Forced heating**

Selecting the indoor unit capacity (SW1-1-2):
Using switches 1, 2, you can select the cooling capacity of the outdoor unit:

SW1-1	SW1-2	Capacity
OFF	ON	36000 btu/h

Selecting the power module type (SW1-3):
Using switch 3, you can select the power module:

SW1-3	Power module
OFF	1
ON	2 (DEFAULT)

Selecting the type of outdoor unit fan motor (SW1-4):
Switch 4 selects whether the outdoor unit fan motor has AC alternating current or DC direct current supply:

SW1-4	Fan
ON	DC Motor
OFF	AC motor

Selecting the number of outdoor unit fan motor (SW1-5):
Using switch 5 you can select the number of fans of the outdoor unit

SW1-5	Fan
OFF	Double
ON	Single

Selecting the communication protocol with the indoor unit (SW1-6): Using switch 6 of SW1, you can select the type of protocol with the indoor unit

SW1-6	Indoor protocol
ON	New (Supermatch)
OFF	Old (Unitary Smart)

Selecting the power supply type (SW1-7): Using switch 7 you can select the power supply type of the unit

SW1-7	Power Supply
OFF	Three-phase
ON	Single-phase

Selecting the "QUIET" mode (SW1-8):
Selecting the "QUIET" mode will limit the noise of the outdoor unit during night time operation. To understand at what stage of the day it is operating, the outdoor unit detects the maximum outdoor temperature peak and after 8 hours reduces operating parameters in order to limit the noise.

SW1-8	QUIET
OFF	Disabled
ON	Enabled

Communication protocol						
SW7	**1**	**2**	**3**	**4**	**Description**	**Default**
	ON	OFF	ON	OFF	Communication protocol (SUPERMATCH)	X
	OFF	ON	OFF	ON	UNITARY SMART Communication Protocol	

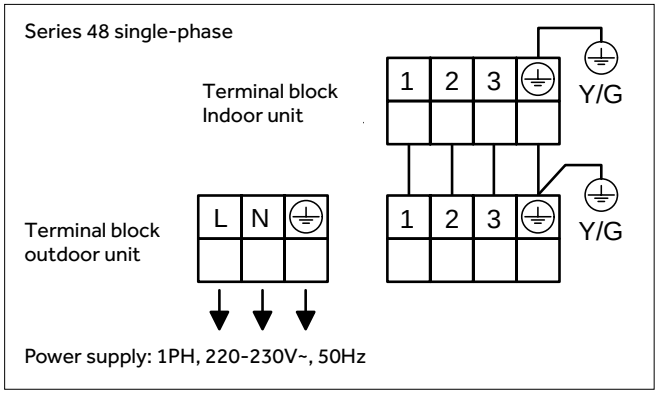
SUPERMATCH OUTDOOR UNIT "Commercial" MONO R410A

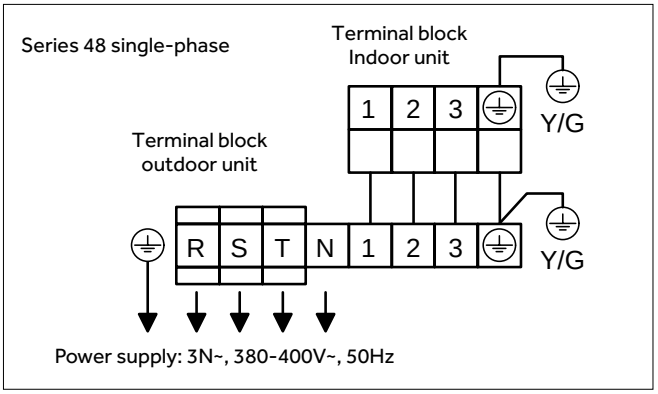
1U48LS1ERA(S) (48K) single-phase

1U48LS1ERB(S) (48K) three-phase

1U60IS2ERB(S) (60K) three-phase

WIRING DIAGRAM 48K - 60K





OUTDOOR UNIT	Model		1U48LS1ERA(S)	1U48LS1ERB(S)	1U60IS2ERB(S)
Outdoor unit technical data					
Liquid pipe Ø		mm	9.52	9.52	9.52
Gas pipe Ø		mm	19.05	19.05	19.05
Maximum pipe length		m	50	50	50
Maximum IU - OU elevation		m	30	30	30
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	2.85 / 5.90	2.85 / 5.90	3.3 / 6.80
Max pipe length without refrigerant charge		m	20	20	20
Amount of refrigerant charge for extra length		g/m	45	45	45
Dimensions	WxDxH	mm	1008x410x830	1008x410x830	948x340x1250
Net weight		kg	82	82	91
Power Supply		V-Ph-Hz	230-1-50	380-400-3N-50	380-400-3N-50
Outdoor unit power cable		mm^2	3G4	5G2.5	5G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5

DIAGNOSTICS OU 48K (1U48LS1ERA(S)) - OU 48K (1U48LS1ERB(S)) - 60K (1U60IS2ERB(S))

COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004							(flashing LED or display)	
0	7	07	7	E7 (E9 column models)	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
				E9 (wall only)	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
0	16	10	16	E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
0	12	0C	12	E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/problem in wiring between board and float		Unit Indoor
0	1	01	1	E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	2	02	2	E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	13	0D	13	E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
0	4	04	4	E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
				E6				Reverse phase protection /high - low pressure	Reverse phase protection /high - low pressure		
0	8	08	8	E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
0	14	0E	14	E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		

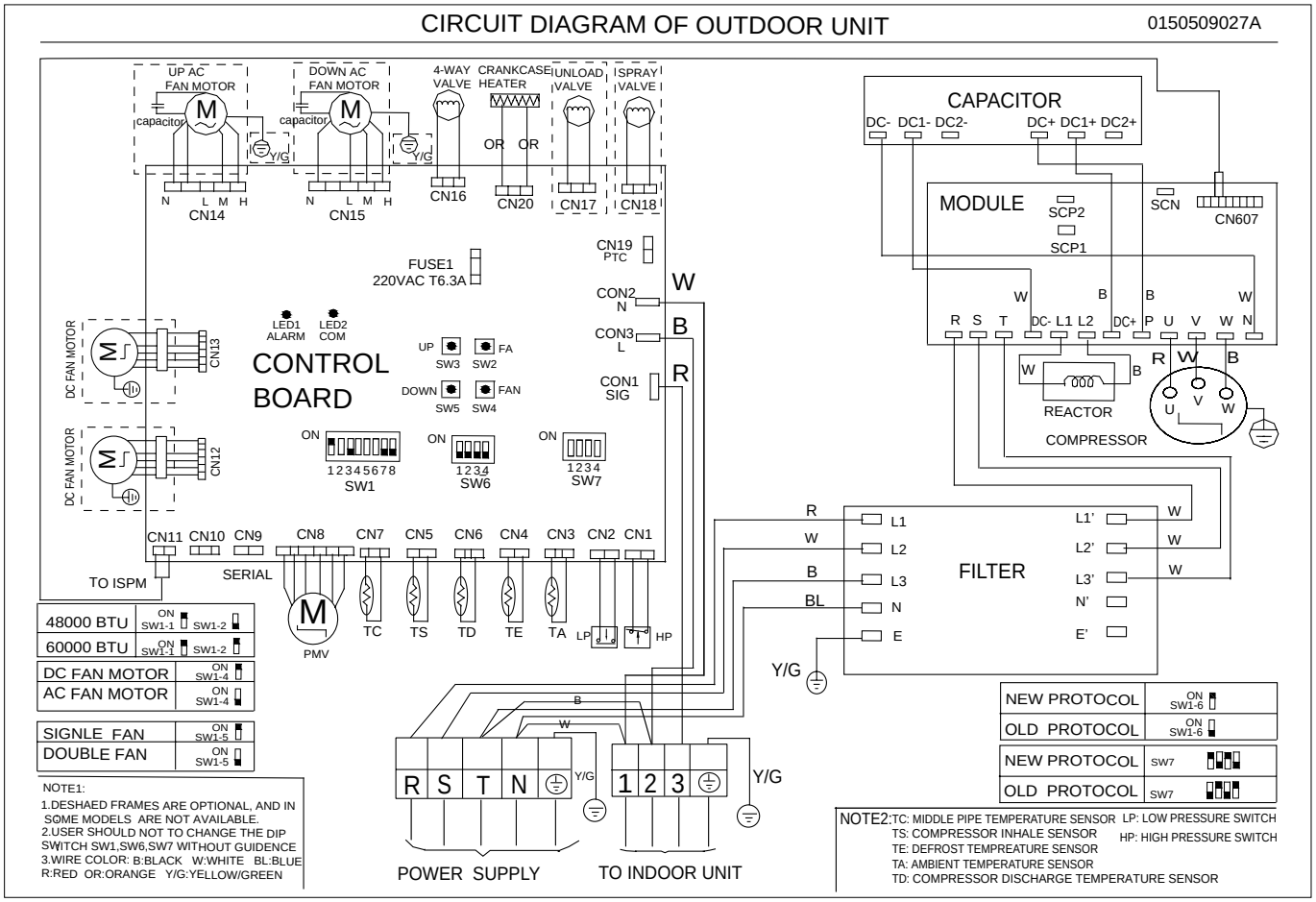
*A: On S: Off L: Flashing ** Check notes for DC motor control

OBSERVE

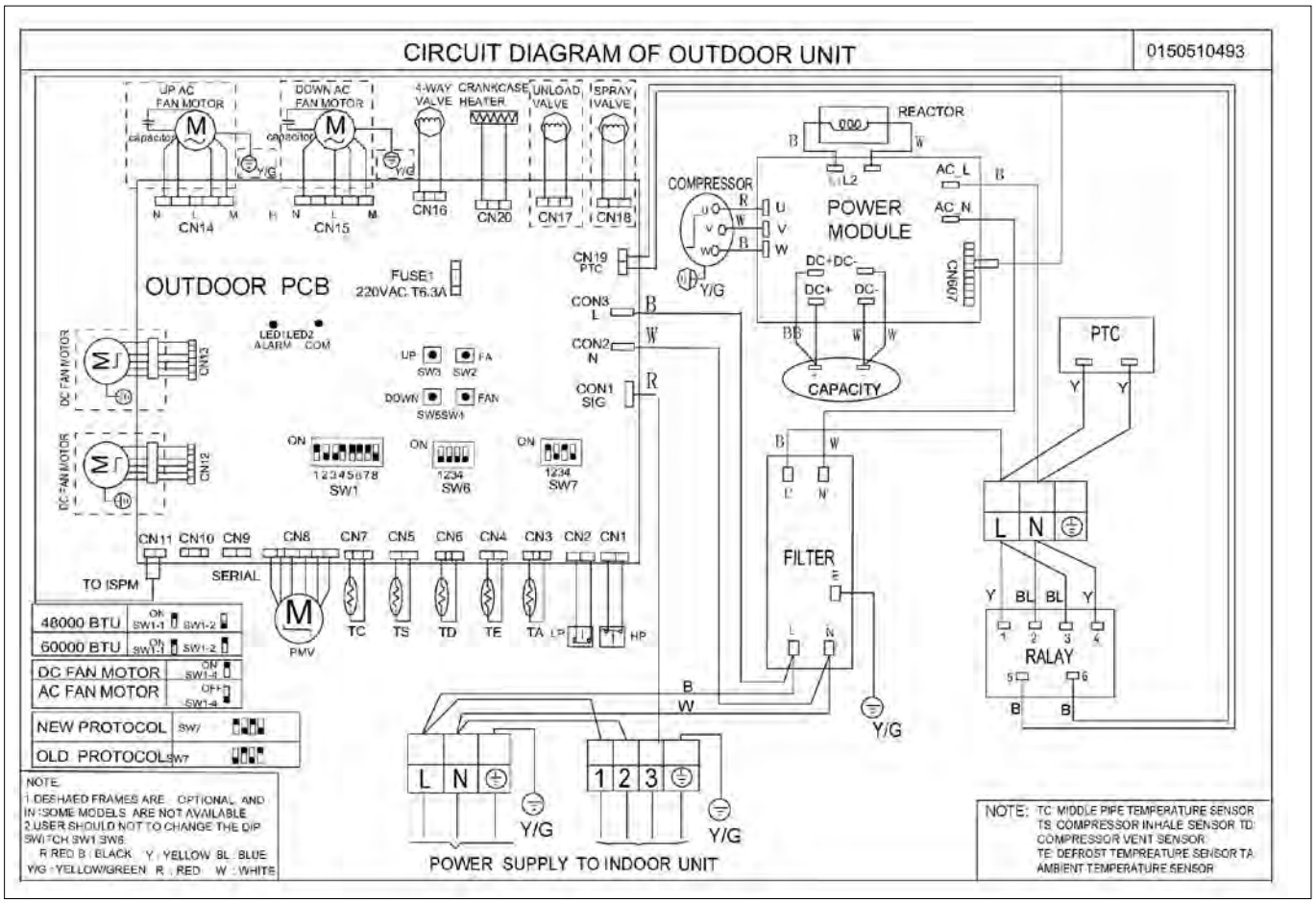
COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
2	1	15	21	F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Outdoor Unit
2	2	16	22	F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine.	2	
2	3	17	23	F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
2	4	18	24	F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
2	5	19	25	F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
2	6	1A	26	F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
2	7	1B	27	F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
2	8	1C	28	F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
2	9	1D	29	F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
3	0	1E	30	F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
3	1	1F	31	F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
3	2	20	32	F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
3	3	21	33	F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
3	4	22	34	F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
3	6	24	36	F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
3	7	25	37	F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
3	8	26	38	F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
3	9	27	39	F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
4	0	28	40	F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
4	3	2B	43	F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
4	4	2C	44	F2	S	L	A	Compressor overcurrent with increasing/ decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
4	5	2D	45	F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
4	6	2E	46	F9				Reset	Reset the faulty system / power module	26	
4	7	2F	47	F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
4	8	30	48					Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
4	9	31	49					Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	
5	8	3A	58	F35				Communication error between modules	Lack of communication for 2 minutes	38	
5	9	3B	59	F36				Piping temperature sensor "TC" faulty	Sensor disconnected, broken, or poorly positioned	39	
6	2	3E	62	F39				High pressure alarm	High pressure switch unplugged/faulty/excessive refrigerant	42	
6	3	3F	63	F40				Low pressure alarm	Low pressure switch unplugged/faulty/lack of refrigerant	43	
6	4	40	64	F41				High-pressure protection	Operating pressure too high, heat exchange problems, excessive refrigerant	44	
6	5	41	65	F42				Low-pressure protection	Operating pressure too low, heat exchange problems, low refrigerant	45	
6	6	42	66	F43				Temperature sensor power module failure / indoor - outdoor unit communication protocol error	Sensor disconnected, faulty or poorly positioned / indoor - outdoor unit communication problem	46	

*A: On S: Off L: Flashing **Check notes for DC motor control

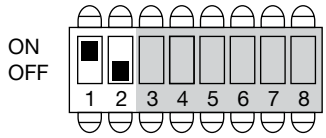
OU CIRCUIT DIAGRAM 1U48LS1ERB(S) - 1U60LS2ERB(S)

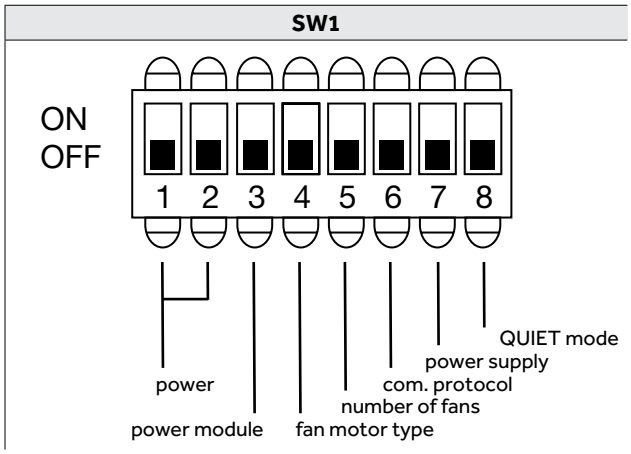


OU CIRCUIT DIAGRAM 1U48LS1ERA(S)



OU SETTINGS 48K - 60K

Table 1	
SW1	**CAPACITY Btu**
	48000 60000



Note:
Always check to set the respective capacity shown in the rating plate data of the indoor unit.

Selecting the operating mode					
SW6	**1**	**2**	**3**	**4**	**Mode**
	OFF	-	-	-	**Normal operation**
	ON	-	-	-	**Nominal power limit**
	-	OFF	-	-	**Normal operation**
	-	ON	-	-	**Forced defrosting**
	-	-	OFF	-	**Normal operation**
	-	-	ON	-	**Forced cooling**
	-	-	-	OFF	**Normal operation**
	-	-	-	ON	**Forced heating**

Selecting the indoor unit capacity (SW1-1-2):
Using switches 1, 2, you can select the cooling capacity of the outdoor unit:

SW1-1	SW1-2	Capacity
ON	OFF	48000 / 60000 btu/h
ON	ON	N.D.

Selecting the power module type (SW1-3):
Using switch 3, you can select the power module:

SW1-3	Power module
OFF	1 (DEFAULT)
ON	2

Selecting the type of outdoor unit fan motor (SW1-4):
Switch 4 selects whether the outdoor unit fan motor has AC alternating current or DC direct current supply:

SW1-4	Fan
ON	DC Motor
OFF	AC motor

Selecting the number of outdoor unit fan motor (SW1-5):
Using switch 5 you can select the number of fans of the outdoor unit

SW1-5	Fan
OFF	Double
ON	Single

Selecting the communication protocol with the indoor unit (SW1-6): Using switch 6 of SW1, you can select the type of protocol with the indoor unit

SW1-6	Indoor protocol
ON	New (Supermatch)
OFF	Old (Unitary Smart)

Selecting the power supply type (SW1-7): Using switch 7 you can select the power supply type of the unit

SW1-7	Power Supply
OFF	Three-phase
ON	Single-phase

Selecting the "QUIET" mode (SW1-8):
Selecting the "QUIET" mode will limit the noise of the outdoor unit during night time operation. To understand at what stage of the day it is operating, the outdoor unit detects the maximum outdoor temperature peak and after 8 hours reduces operating parameters in order to limit the noise.

SW1-8	Quiet Mode
OFF	Off
ON	On

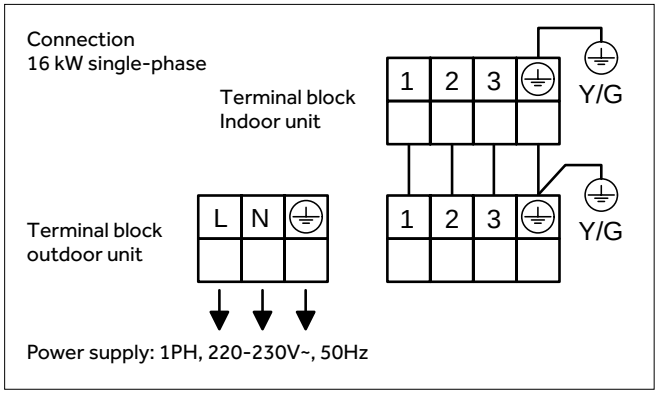
Communication protocol						
SW7	**1**	**2**	**3**	**4**	**Description**	**Default**
	ON	OFF	ON	OFF	Communication protocol (SUPERMATCH)	X
	OFF	ON	OFF	ON	UNITARY SMART Communication Protocol	

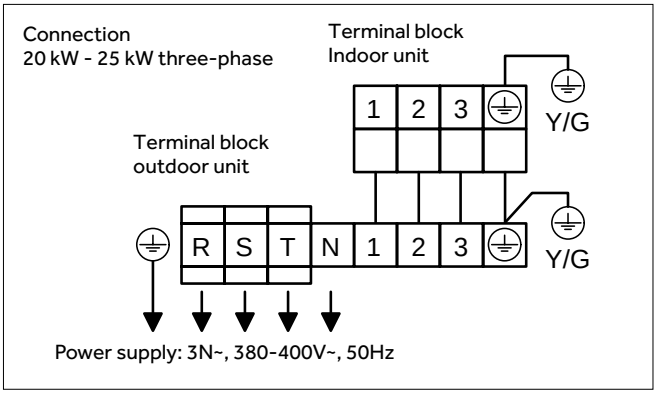
1UH160P1ERG (16 kW) (single-phase)

1UH200W1ERK (20 kW) (three-phase)

1UH250W1ERK (25 kW) (three-phase)

WIRING DIAGRAM 16 kW - 20 kW - 25 kW





OUTDOOR UNIT	Model		1UH160P1ERG	1UH200W1ERK	1UH250W1ERK
Outdoor unit technical data					
Liquid pipe Ø		mm	9.52	12.7	12.7
Gas pipe Ø		mm	15.88	19.05	22.2
Standard pipe length without refrigerant charge		m	30	30	30
Maximum pipe length		m	75	75	75
Maximum IU - OU elevation		m	3.7	6.10	6.10
Refrigerant charge in the factory		kg	30	50	50
Equivalent tons of CO^2		kg/TCO_2EQ	7.72	13.25	13.25
Additional refrigerant charge beyond standard length		g/m	45	45	45
Dimensions	WxDxH	mm	1350x950x370	1636x1050x400	1636x1050x400
Net weight		kg	105	160	160
Power Supply		V-Ph-Hz	1/220~230/50/60	3/380~400/50/60	3/380~400/50/60
Outdoor unit power cable		mm^2	5G2.5	5G2.5	5G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5

DIAGNOSTICS IU-OU 20 kW - 25 kW

COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on outdoor unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
0	7	07	7	E7 (E9 column models)	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
				E9 (wall only)	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
0	16	10	16	E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
0	12	0C	12	E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/problem in wiring between board and float		Unit Indoor
0	1	01	1	E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	2	02	2	E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
0	13	0D	13	E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
0	4	04	4	E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
				E6				Reverse phase protection /high - low pressure	Reverse phase protection /high - low pressure		
0	8	08	8	E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
0	14	0E	14	E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		

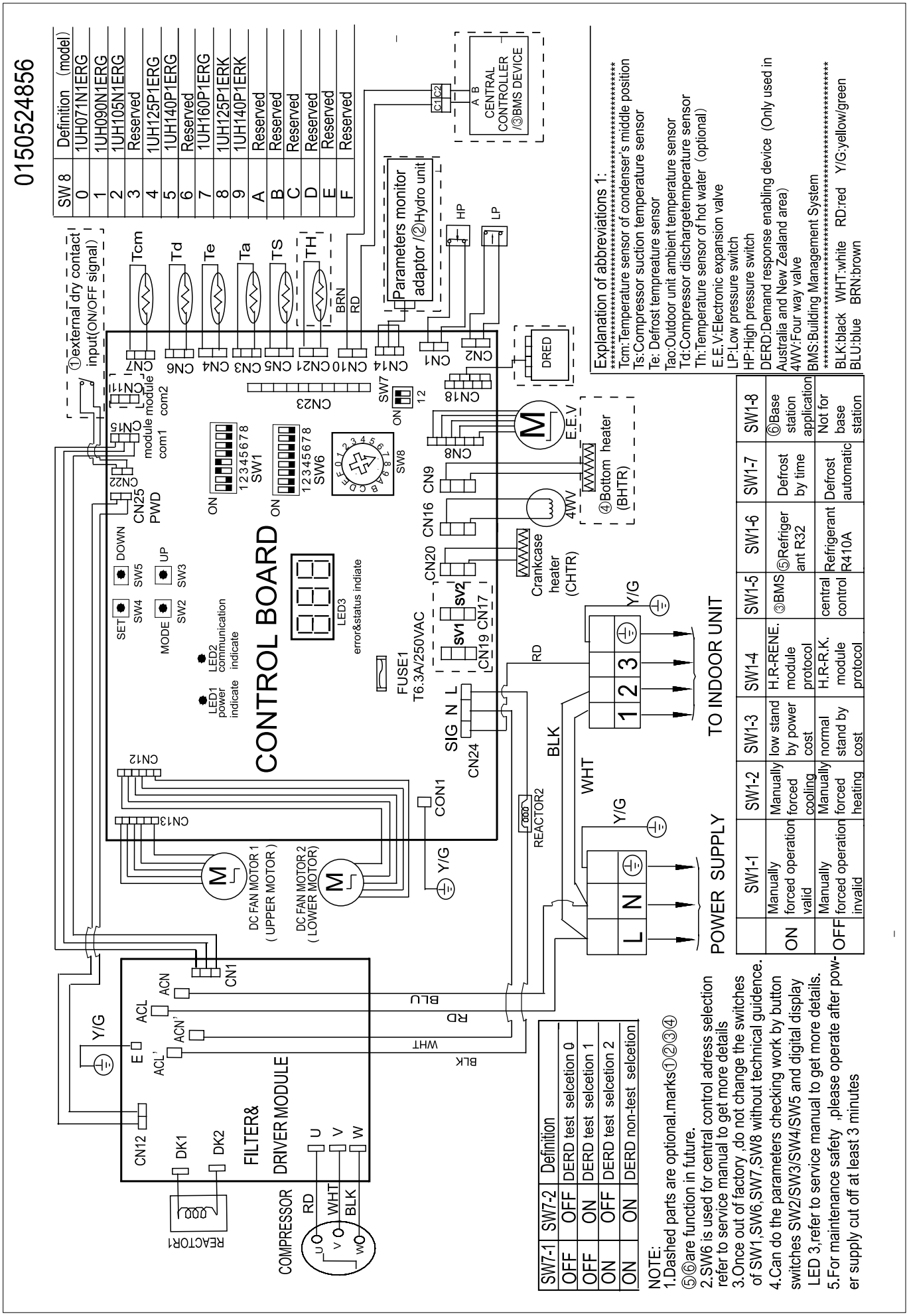
*A: On S: Off L: Flashing ** Check notes for DC motor control **OBSERVE**

COMMERCIAL INDOOR UNITS No. of Timer LEDs flashing (or LED4 internal board)		Alarm on wired controller	Alarm on wired controller	Wall display models	Unit TIDE - Geos / Flexis Unit			Type of failure	Description / Cause	Error code on unit	Failure on indoor/ outdoor unit
					Power	Timer	Run				
No. of LED TIMER or LED4 lamps	No. of RUN/ OPERATE LED3 lamps	YR-E17 HW-BA116ABK	YR-16A YR-16B YCZ-G001 YCZ-A003 HC-SA164DBT YCZ-A004		⏻	🕒	↻			(flashing LED or display)	
2	1	15	21	F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	
2	2	16	22	F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine.	2	
2	3	17	23	F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
2	4	18	24	F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
2	5	19	25	F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
2	6	1A	26	F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
2	7	1B	27	F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
2	8	1C	28	F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
2	9	1D	29	F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
3	0	1E	30	F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
3	1	1F	31	F7	S	L	S	Compressor intake temperature sensor faulty / high pressure	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
3	2	20	32	F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
3	3	21	33	F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
3	4	22	34	F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
3	6	24	36	F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
3	7	25	37	F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
3	8	26	38	F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
3	9	27	39	F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
4	0	28	40	F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
4	3	2B	43	F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
4	4	2C	44	F2	S	L	A	Compressor overcurrent with increasing/decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
4	5	2D	45	F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
4	6	2E	46	F9				Reset	Reset the faulty system / power module	26	
4	7	2F	47	F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
4	8	30	48					Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
4	9	31	49					Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	
5	8	3A	58	F35				Communication error between modules	Lack of communication for 2 minutes	38	
5	9	3B	59	F36				Piping temperature sensor "TC" faulty	Sensor disconnected, broken, or poorly positioned	39	
6	2	3E	62	F39				High pressure alarm	High pressure switch unplugged/faulty/excessive refrigerant	42	
6	3	3F	63	F40				Low pressure alarm	Low pressure switch unplugged/faulty/lack of refrigerant	43	
6	4	40	64	F41				High-pressure protection	Operating pressure too high, heat exchange problems, excessive refrigerant	44	
6	5	41	65	F42				Low-pressure protection	Operating pressure too low, heat exchange problems, low refrigerant	45	
6	6	42	66	F43				Temperature sensor power module failure / indoor - outdoor unit communication protocol error	Sensor disconnected, faulty or poorly positioned / indoor - outdoor unit communication problem	46	

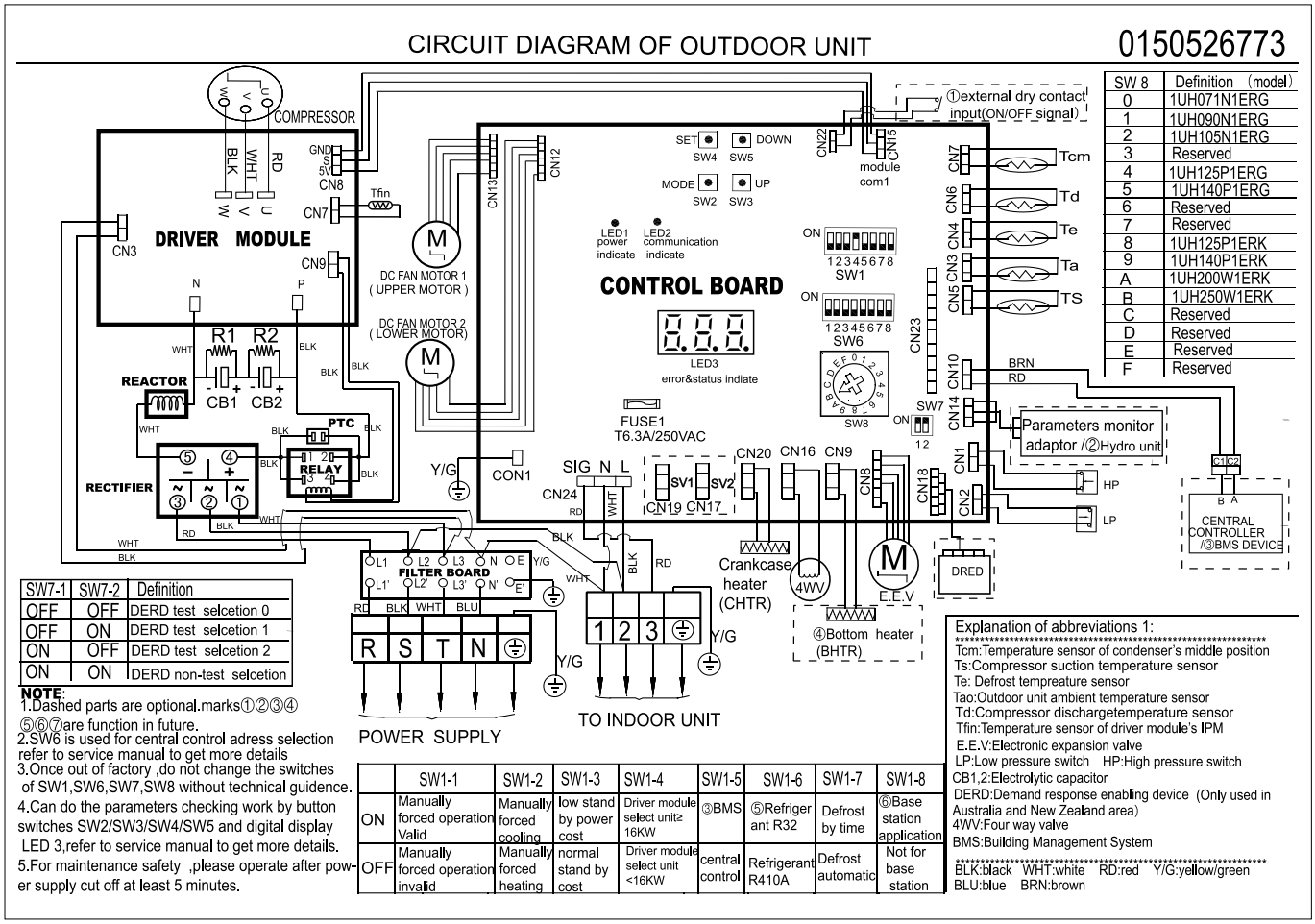
Outdoor Unit

*A: On S: Off L: Flashing **Check notes for DC motor control

OU CIRCUIT DIAGRAM 16kW (1UH160P1ERG)



OU CIRCUIT DIAGRAM 20kW - 25kW



OU SETTINGS 16kW - 20kW - 25kW

SW1 1=ON 0=OFF									
Forced mode		Stand by	Mode	Remote controller	Refrigerant	Defrost	Reserved	Description	Default Position
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8		
0	-	-	-	-	-	-	-	Manual forcing disabled	x
1	-	-	-	-	-	-	-	Manual forcing enabled	
-	0	-	-	-	-	-	-	Forced heating	x
-	1	-	-	-	-	-	-	Forced cooling	
-	-	0	-	-	-	-	-	Normal stand by	x
-	-	1	-	-	-	-	-	Low consumption stand by	
-	-	-	0	-	-	-	-	Water heating - only heating	
-	-	-	1	-	-	-	-	Air conditioning mode	x
-	-	-	-	0	-	-	-	Centralised controller	x
-	-	-	-	1	-	-	-	BMS control	
-	-	-	-	-	0	-	-	R410A refrigerant	x
-	-	-	-	-	1	-	-	R32 refrigerant	
-	-	-	-	-	-	0	-	Automatic defrosting	x
-	-	-	-	-	-	1	-	Timed defrosting	
-	-	-	-	-	-	-	0	Reserved	x
-	-	-	-	-	-	-	1	Reserved	

Enabling forced mode (SW1-1\2):

To force the air conditioner mode, set switch SW1-1 to ON, then use switch SW2-2 to select heating (OFF) or cooling (ON).

*** For forced operating mode, refer to page 106**

Stand by mode (SW1-3):

Placing this switch in ON enables low-power function when the air conditioner is on stand by

Water heater - air conditioning (SW1-4):

Placing in ON enables the "heating only" function. The factory setting is OFF.

Remote Control (SW1-5):

It is possible to control the air conditioner remotely using the centralised controller (e.g. YCZ-A004) with OFF switch, or by PC (e.g. BMS) with ON switch.

Refrigerant (SW1-6):

Using this switch some parameters are changed. By default, keep in R410A mode with switch OFF.

Defrosting (SW1-7):

By setting the switch to ON if the outside temperature drops below 10°C, a defrost is performed every 50 minutes. Otherwise, if the switch remains in OFF the defrost is done only when it is necessary according to the recorded temperatures.

Reserved (SW1-8):

Function not used. Keep switch in OFF position as default.

SW6 1=ON 0=OFF								
Address of centralised controller / bms								Description
SW6-8	SW6-7	SW6-6	SW6-5	SW6-4	SW6-3	SW6-2	SW6-1	
0	0	0	0	0	0	0	0	Address No. 1
0	0	0	0	0	0	0	1	Address No. 2
0	0	0	0	0	0	1	0	Address No. 3
0	0	0	0	0	0	1	1	Address No. 4
0	0	0	0	0	1	0	0	Address No. 5
-	-	-	-	-	-	-	-	Address No. --
1	1	1	1	1	1	1	1	Address No. 128

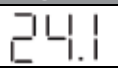
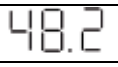
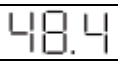
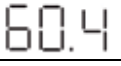
SW7 1=0N 0=OFF		
SW7-1	SW7-2	Description
0	0	DERD test 0
0	1	DERD test 1
1	0	DERD test 2
1	1	DERD function disabled (DEFAULT)

SW8 (rotary)	
Model selection	
Position	Description
0	**1UH071N1ERG**
1	**1UH090N1ERG**
2	**1UH105N1ERG**
3	Not used
4	**1UH125P1ERG**
5	**1UH140P1ERG**
6	Not used
7	**1UH160P1ERG**
8	**1UH125P1ERK**
9	**1UH140P1ERK**
A	**1UH200W1ERK**
B	**1UH250W1ERK**
C	Not used
D	Not used
E	Not used
F	Not used

READING / FORCING PARAMETERS

Parameters shown in the display

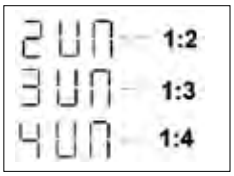
- As soon as the outdoor unit is powered, the corresponding capacity will appear in the display.

MODEL	MODEL CODE	DISPLAY
1UH071N1ERG	24.1	
1UH090N1ERG	30.1	
1UH105N1ERG	36.1	
1UH125P1ERG	48.2	
1UH140P1ERG	60.2	
1UH125P1ERK	48.4	
1UH140P1ERK	60.4	

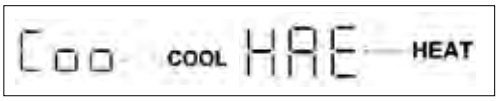
- After a few seconds, the number of indoor units connected will appear.

Monosplit systems 1:1

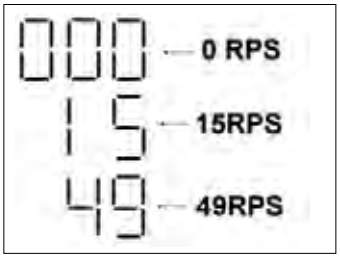
Maxisplit systems with 2/3/4 indoor units



- As soon as the compressor starts, the startup mode will appear for a few seconds:
  Coo: Cooling
  HAE: Heating



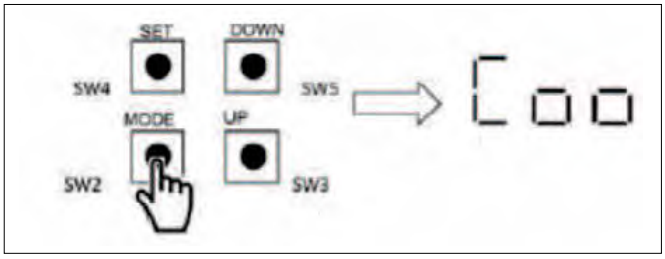
- After a few seconds, operating frequency of the compressor will appear in the display.



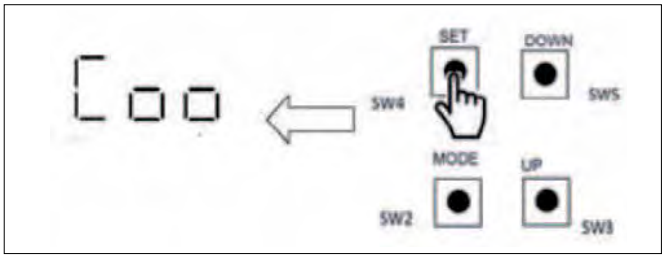
- As soon as the compressor is switched off, the OFF sign will appear for a few seconds, after which the display will remain off until the compressor restarts again.

Forced cooling:

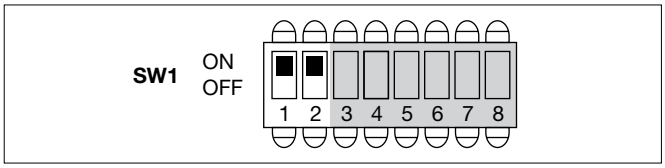
- Using the electronic board of the outdoor unit, press the "MODE" (SW2) button for 5 seconds and flashing "Coo" will appear on the display.



- Confirm by pressing the "SET" (SW4) button for 5 seconds.

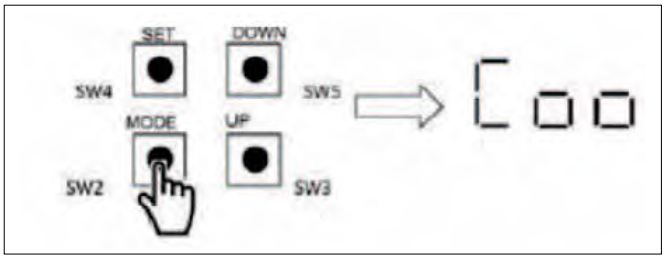


- Place switches 1 and 2 of the SW1 block to "ON"
- From remote controller/wired controller turn on the indoor unit in cooling mode at 16°C with maximum ventilation. (*If the indoor unit remains off)
- To turn off the outdoor unit, place the switches 1 and 2 of the SW1 block to "OFF".

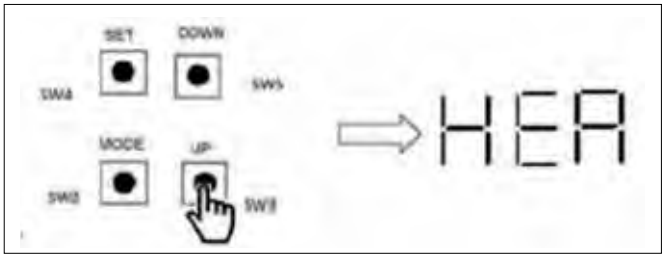


Forced heat pump:

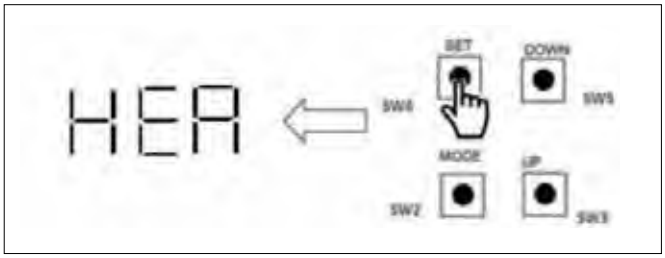
- Using the electronic board of the outdoor unit, press the "MODE" (SW2) button for 5 seconds and flashing "Coo" will appear on the display.



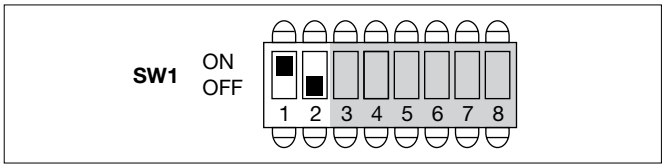
- Press the "UP" (SW3) button for 1 time and the flashing "HEA" appears in the display.



- Confirm by pressing the "SET" (SW4) button for 5 seconds.



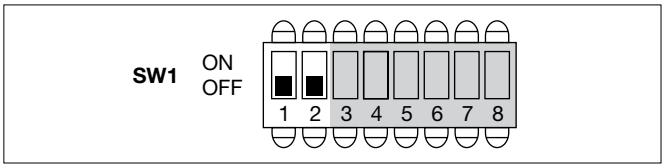
- Place switch 1 of the SW1 block to "ON".
- From remote controller/wired controller turn on the indoor unit in heat pump mode at 30°C with maximum ventilation. (*If the indoor unit remains off)
- To turn off the outdoor unit, place the switch 1 of the SW1 block to "OFF".



Parameter reading mode:

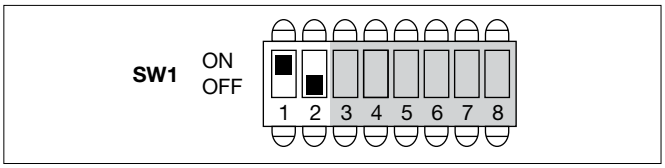
With this procedure it is possible to check some parameters, some of which can be "forced" in order to verify the actual functioning of the linked devices.

For read-only parameters, keep switch 1 of the SW1 block in "OFF"



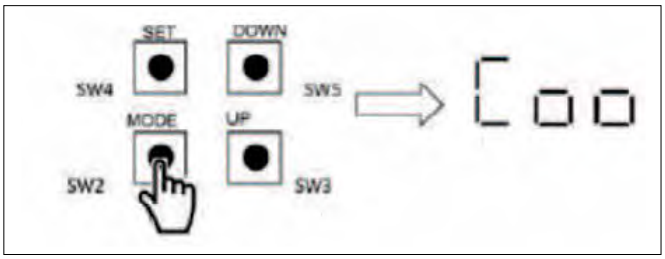
To force some parameters, instead, set the switch 1 of the SW1 block to "ON".

****Once the verifications are complete, set the switch no. 1 to "OFF" again.**



Raise the switch only when you have already selected the function you want to force

- Using the electronic board of the outdoor unit, press the "MODE" button for 5 seconds. "Coo" will flash on the display.
- Press the "UP" (SW3) button 5 times until "Off" appears in the display.
- Press the "SET" (SW4) button for 5 seconds and the display will stop flashing.
- Press the "SET" (SW4) button again for 5 seconds, a second menu will appear in the display with the following functions:



Abbreviation	Symbol	Description	Possibility of forcing (SW1, 1 "ON")	
Frq	FrQ	Compressor frequency	*	000 to 120 rps
opN	oPN	Electronic expansion valve opening	*	000 to 500
I.FN	I.FN	Indoor unit fan speed (002 to 004, 000 off)		
o.FN	o.FN	Outdoor unit fan speed	*	000 to 009
tAo	tAo	Outdoor unit ambient temperature		
tc	tC	Outdoor unit exchanger temperature		
td	td	Compressor delivery temperature		
tE	tE	Defrosting sensor temperature		
tS	tS	Compressor intake temperature		
tdr	tdr	Power module temperature		
Idr	Idr	Current absorbed by compressor		
tH	tH	Hot water temperature (not used)		
tAI	tAI	Indoor unit ambient temperature		
TCI	tCI	Indoor unit exchanger temperature		
tSt	tSt	Indoor unit set temperature (in heat pump mode +3°C for compensation)		

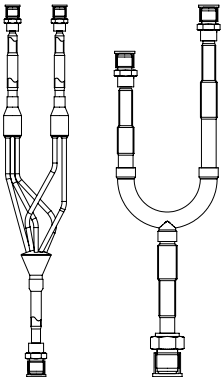
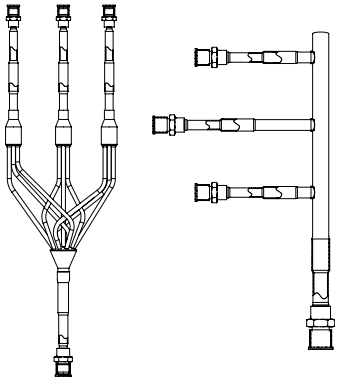
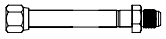
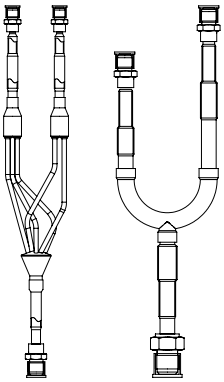
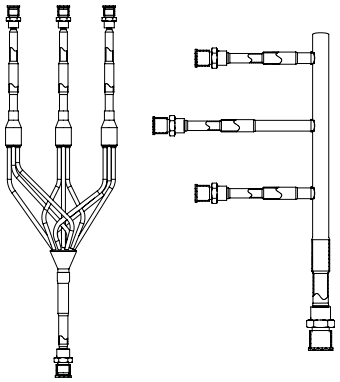
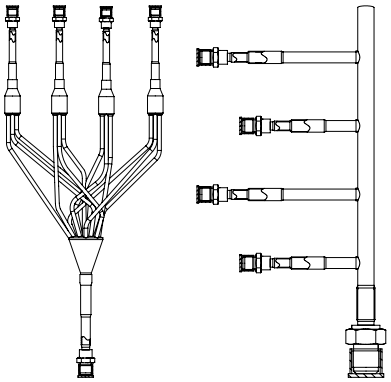
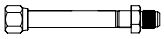
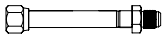
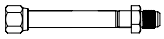
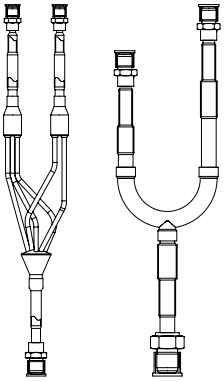
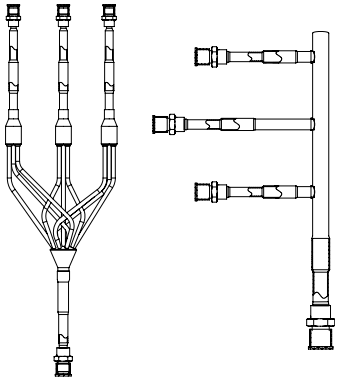
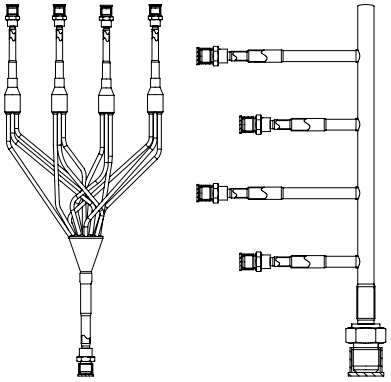
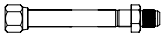
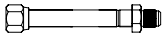
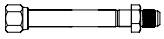
- Press the "UP"(SW3) and "DOWN" (SW4) buttons to scroll through the various functions. If the chosen function allows forcing, raise the switch 1 of the SW1 block.
- To exit the menu, press the "MODE" (SW2) button for 15 seconds, which will result in the word "Qut" appearing in the display. Confirm by holding down the "SET" (SW4) button for 5 seconds.

INDOOR UNITS		CASSETTE			CEILING/FLOOR CONVERTIBLE		
							
OUTDOOR UNITS		**1:2**	**1:3**	**1:4**	**1:2**	**1:3**	**1:4**
10.5 kW		**AB50S2SC2FA** 2501455C2 **AB50S2SC2FA** 2501455C2	**AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2		**AC50S2SG1FA** 2501405A2 **AC50S2SG1FA** 2501405A2	**AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2	
SINGLE-PHASE	**1U105S2SS1FA** 2502308A2	**JOINT FQG-2Y100A** 25030230L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L		**JOINT FQG-2Y100A** 25030230L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L	
THREE-PHASE	**1U105S2SS1FB** 2502308B2						
12.5 kW		**AB71S2SG1FA** 2501456A2 **AB71S2SG1FA** 2501456A2	**AB50S2SC2FA** 2501455C2 **AB50S2SC2FA** 2501455C2 **AB50S2SC2FA** 2501455C2	**AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2	**AC71S2SG1FA** 2501406A2 **AC71S2SG1FA** 2501406A2	**AC50S2SG1FA** 2501405A2 **AC50S2SG1FA** 2501405A2 **AC50S2SG1FA** 2501405A2	**AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2
SINGLE-PHASE	**1U125S2SN1FA** 2502309A2	**JOINT KIT FQG-2Y200A + ADAPTER** 25030234L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L	**JOINT KIT FQG-4Y200A + ADAPTER** 25030249L	**JOINT KIT FQG-2Y200A + ADAPTER** 25030234L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L	**JOINT KIT FQG-4Y200A + ADAPTER** 25030249L
THREE-PHASE	**1U125S2SN1FB** 2502309B2						
14.0 kW		**AB71S2SG1FA** 2501456A2 **AB71S2SG1FA** 2501456A2	**AB50S2SC2FA** 2501455C2 **AB50S2SC2FA** 2501455C2 **AB50S2SC2FA** 2501455C2	**AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2 **AB35S2SC2FA** 2501452C2	**AC71S2SG1FA** 2501406A2 **AC71S2SG1FA** 2501406A2	**AC50S2SG1FA** 2501405A2 **AC50S2SG1FA** 2501405A2 **AC50S2SG1FA** 2501405A2	**AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2 **AC35S2SG1FA** 2501402A2
SINGLE-PHASE	**1U140S2SP1FA** 2502309D2	**JOINT KIT FQG-2Y200A + ADAPTER** 25030234L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L	**JOINT KIT FQG-4Y200A + ADAPTER** 25030249L	**JOINT KIT FQG-2Y200A + ADAPTER** 25030234L	**JOINT KIT FQG-3Y200A + ADAPTER** 25030244L	**JOINT KIT FQG-4Y200A + ADAPTER** 25030249L
THREE-PHASE	**1U140S2SP1FB** 2502309F2						

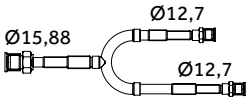
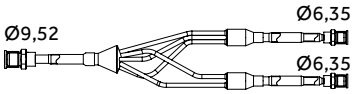
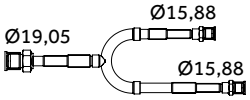
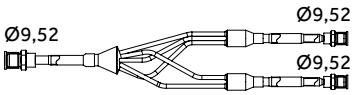
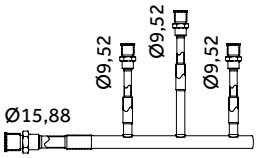
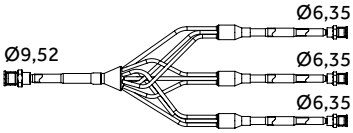
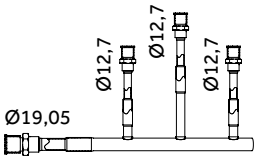
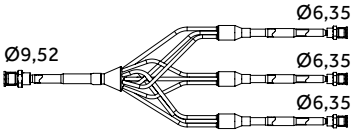
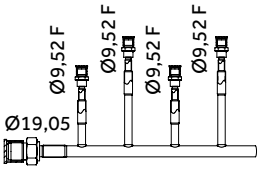
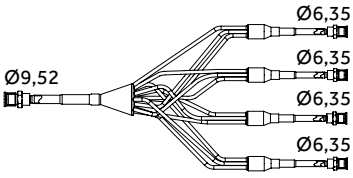
OPTIONAL CONTROLLERS AND ACCESSORIES	WIRED CONTROLLERS (REQUIRED FOR SYSTEM)	
		
	YR-E17 25030102L	YR-E16B 25030105L

SLIM DUCT LOW PRESSURE			DUCTED MEDIUM PRESSURE		
					
1:2	**1:3**	**1:4**	**1:2**	**1:3**	**1:4**
AD50S2SS1FA 2504655A2 **AD50S2SS1FA** 2504655A2	**AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2		**AD50S2SM3FA** 2501655B2 **AD50S2SM3FA** 2501655B2	**AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2	
JOINT **FQG-2Y100A** 25030230L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L		**JOINT** **FQG-2Y100A** 25030230L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L	
AD71S2SS1FA 2504656A2 **AD71S2SS1FA** 2504656A2	**AD50S2SS1FA** 2504655A2 **AD50S2SS1FA** 2504655A2 **AD50S2SS1FA** 2504655A2	**AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2	**AD71S2SM3FA** 2501656B2 **AD71S2SM3FA** 2501656B2	**AD50S2SM3FA** 2501655B2 **AD50S2SM3FA** 2501655B2 **AD50S2SM3FA** 2501655B2	**AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2
JOINT **KIT** **FQG-2Y200A** **+ ADAPTER** 25030234L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L	**JOINT** **KIT** **FQG-4Y200A +** **ADAPTER** 25030249L	**JOINT** **KIT** **FQG-2Y200A** **+ ADAPTER** 25030234L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L	**JOINT** **KIT** **FQG-4Y200A +** **ADAPTER** 25030249L
AD71S2SS1FA 2504656A2 **AD71S2SS1FA** 2504656A2	**AD50S2SS1FA** 2504655A2 **AD50S2SS1FA** 2504655A2 **AD50S2SS1FA** 2504655A2	**AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2 **AD35S2SS1FA** 2504652A2	**AD71S2SM3FA** 2501656B2 **AD71S2SM3FA** 2501656B2	**AD50S2SM3FA** 2501655B2 **AD50S2SM3FA** 2501655B2 **AD50S2SM3FA** 2501655B2	**AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2 **AD35S2SM3FA** 2501652B2
JOINT **KIT** **FQG-2Y200A** **+ ADAPTER** 25030234L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L	**JOINT** **KIT** **FQG-4Y200A +** **ADAPTER** 25030249L	**JOINT** **KIT** **FQG-2Y200A** **+ ADAPTER** 25030234L	**JOINT** **KIT** **FQG-3Y200A +** **ADAPTER** 25030244L	**JOINT** **KIT** **FQG-4Y200A +** **ADAPTER** 25030249L

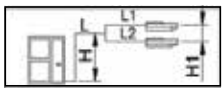
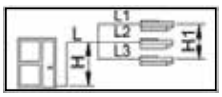
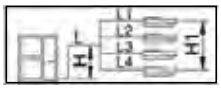
CENTRAL CONTROLLERS			BMS	WI-FI
 PHASED OUT				
YCZ-G001 25030133J	HC-SA164DBT 25030134J	YCZ-A004 25030132J	**HCM-05A** 25030301J	**KZW-W001** 25033108L

OUTDOOR UNITS		1:2	1:3	1:4
10.5 kW		 LIQUID GAS	 LIQUID GAS	
SINGLE-PHASE THREE-PHASE	1U105S2SS1FA 2502308A2 1U105S2SS1FB 2502308B2	JOINT FQG-2Y100A 25030230L	JOINT KIT FQG-3Y200A + ADAPTER 25030244L 	
12.5 kW		 LIQUID GAS	 LIQUID GAS	 LIQUID GAS
SINGLE-PHASE THREE-PHASE	1U125S2SN1FA 2502309A2 1U125S2SN1FB 2502309B2	JOINT KIT FQG-2Y200A + ADAPTER 25030234L 	JOINT KIT FQG-3Y200A + ADAPTER 25030244L 	JOINT KIT FQG-4Y200A + ADAPTER 25030249L 
14.0 kW		 LIQUID GAS	 LIQUID GAS	 LIQUID GAS
SINGLE-PHASE THREE-PHASE	1U140S2SP1FA 2502309D2 1U140S2SP1FB 2502309F2	JOINT KIT FQG-2Y200A + ADAPTER 25030234L 	JOINT KIT FQG-3Y200A + ADAPTER 25030244L 	JOINT KIT FQG-4Y200A + ADAPTER 25030249L 

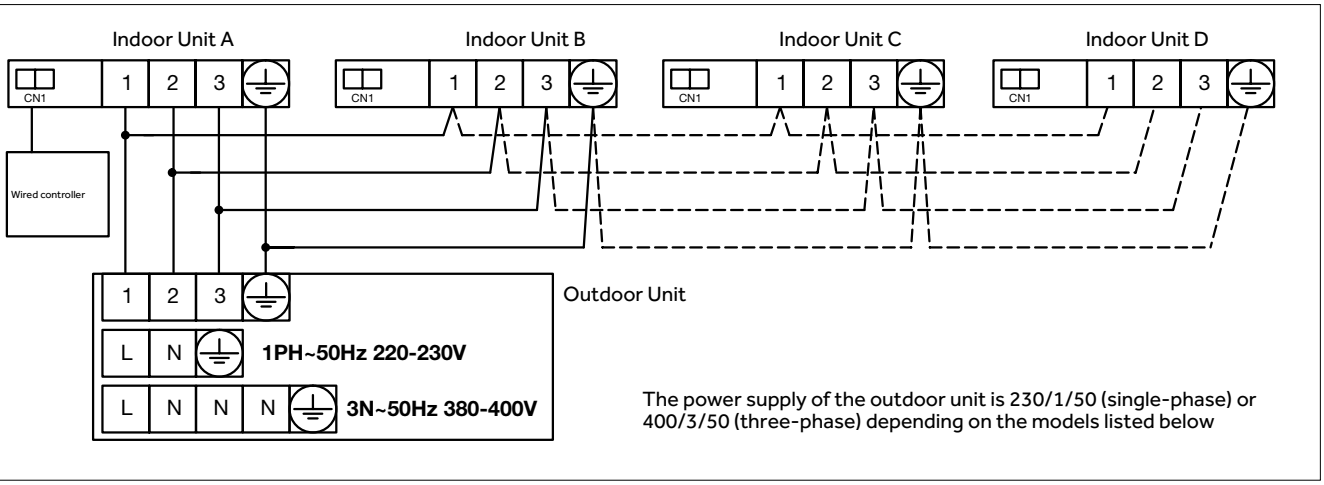
COLLECTOR SPECIFICATIONS

1U105S2SS1FA 1U105S2SS1FB	AB50S2SC1FA AC50S2SG1FA AD50S2SM3FA AD50S2SS1FA	2	YR-E17			FQG-2Y100A
1U125S2SN1FA 1U125S2SN1FB 1U140S2SP1FA 1U140S2SP1FB	AB71S2SC1FA AC71S2SG1FA AD71S2SM3FA AD71S2SS1FA	2	YR-E17			FQG-2Y200A
1U105S2SS1FA 1U105S2SS1FB	AB35S2SC1FA AC35S2SG1FA AD35S2SM3FA AD35S2SS1FA	3	YR-E17			FQG-3Y100A
1U125S2SN1FA 1U125S2SN1FB 1U140S2SP1FA 1U140S2SP1FB	AB50S2SC1FA AC50S2SG1FA AD50S2SM3FA AD50S2SS1FA	3	YR-E17			FQG-3Y200A
1U125S2SN1FA 1U125S2SN1FB 1U140S2SP1FA 1U140S2SP1FB	AB35S2SC1FA AC35S2SG1FA AD35S2SM3FA AD35S2SS1FA	4	YR-E17			FQG-4Y200A

PIPE SPECIFICATIONS

2		L+L1+L2			H			L1 o L2			H1			L1 - L2			liquido / gas			liquido / gas		
		1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140
		≤50	≤50	≤75	≤30	≤30	≤30	≤20			≤0.5			≤10			9,52 15,88	9,52 15,88	9,52 15,88	6,35 12,7	9,52 15,88	9,52 15,88
3		L+L1+L2			H			L1 o L2 o L3			H1			(Lx-Ly) x,y=1,2,3 x≠y			liquido / gas			liquido / gas		
		1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140
		≤50	≤60	≤75	≤20	≤30	≤30	≤20			≤0,5			≤10			9,52 15,88	9,52 15,88	9,52 15,88	6,35 9,52	6,35 12,7	6,35 12,7
4		L+L1+L2+L3+L4			H			L1 o L2 o L3 o L4			H1			(Lx-Ly) x,y=1,2,3,4 x≠y			liquido / gas			liquido / gas		
		1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140	1U 105	1U 125	1U 140
		/	≤60	≤75	/	≤30	≤30	/	≤20	≤20	/	≤0,5	≤0,5	/	≤10	≤10	/	9,52 15,88	9,52 15,88		6,35 9,52	6,35 9,52

SIMILAR WIRING DIAGRAM



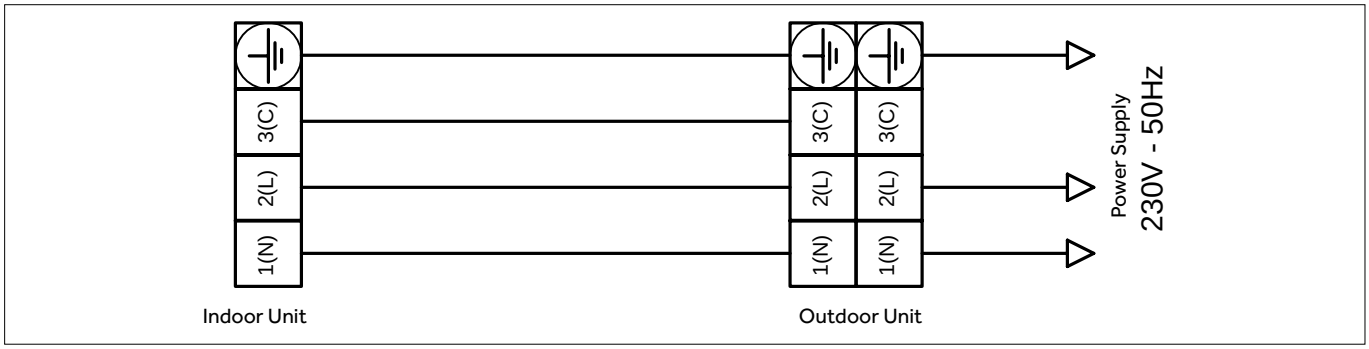
DIAGNOSTICS:
To see the list of alarms of indoor / outdoor units in combination MAXISPLIT, go to page 86

SETTINGS:
Outdoor units
- (10.5 kW) on **page 90**
- (12.5 kW - 14 kW) on **page 91**

Indoor units
- Cassette (620) on **page 47**
- Ceiling / Floor Convertible on **page 59**
- Ducted Low Pressure on **page 61**
- Ducted Medium Pressure on **page 64**

AS25TADHRA-1 - 1U25BEEFRA (2.5 kW)
AS35TADHRA-1 - 1U35MEEFRA (3.5 kW)
AS50TDDHRA-CL - 1U50MEEFRA (5.0 kW)
AS68TEDHRA-CL -1U68REEFRA (6.8 kW)

WIRING DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW - 6.8 kW

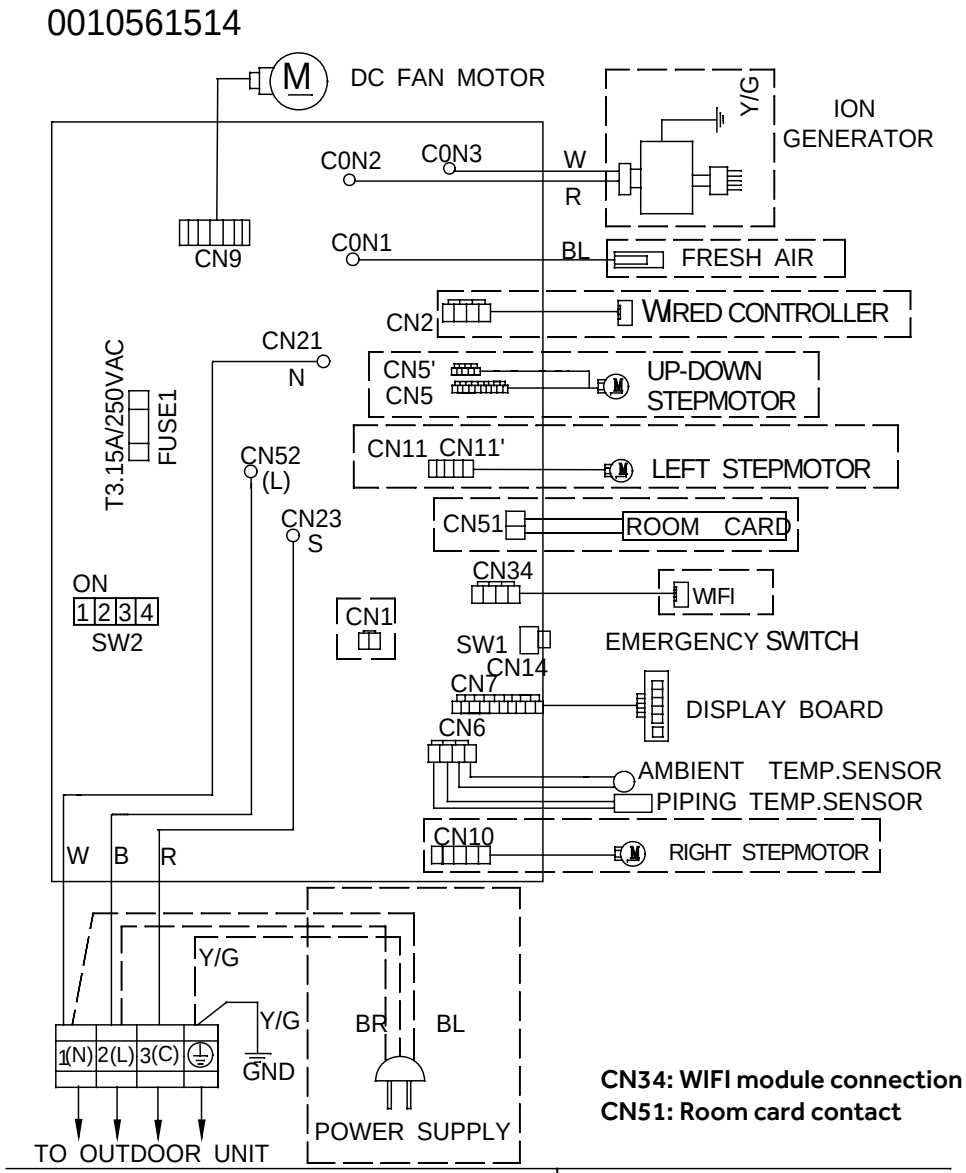


INDOOR UNIT	Model		AS25TADHRA-1	AS35TADHRA-1	AS50TDDHRA-CL	AS68TEBHRA-CL
OUTDOOR UNIT	Model		**1U25BEEFRA**	**1U35MEEFRA**	**1U50MEEFRA**	**1U68REEFRA**
Indoor unit technical data						
Treated air volume		m^3/h	500	550	1000	1200
Dimensions	WxDxH	mm	820x195x280	820x195x280	1008x225x318	1125x240x335
Net weight		kg	8.4	8.4	11.6	14
Outdoor unit technical data						
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7	12.7
Standard pipe length without refrigerant charge		m	7	7	10	10
Maximum pipe length		m	15	15	25	25
Maximum IU - OU elevation		m	10	10	15	15
Refrigerant charge in the factory / Equivalent tons of CO_2		kg/TCO_2EQ	0.50 / 0.33	0.62 / 0.42	0.90 / 0.60	1.20 / 0.81
Additional refrigerant charge beyond standard length		g/m	20	20	50	50
Dimensions	WxDxH	mm	780x245x540	800x280x550	800x280x550	890x353x697
Net weight		kg	27	27	32.5	51
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G1.5	3G2.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5	4G1.5

DIAGNOSTICS 2.5 kW - 3.5 kW - 5.0 kW - 6.8 kW

	ERROR CODES		
	INDOOR	**OUTDOOR (LED1 flash)**	**DESCRIPTION**
INDOOR AND OUTDOOR	E7	15	COMMUNICATION ERROR BETWEEN INDOOR AND OUTDOOR UNITS
	E5	22	POWER TERMINAL TEMP. PROTECTION (CN45)/GHIACCIO IU
INDOOR UNIT MALFUNCTIONS	E1		AMBIENT TEMPERATURE SENSOR FAULTY
	E2		PIPING TEMPERATURE SENSOR FAULTY
	E4		INDOOR UNIT BOARD FAULTY
	E9	21	INDOOR UNIT OVERHEATING
	E14		INDOOR UNIT FAN MOTOR FAULTY
OUTDOOR UNIT MALFUNCTIONS	F12	1	OUTDOOR UNIT BOARD FAULTY
	F1	2	POWER MODULE PROTECTION
	F22	3	ALTERNATING CURRENT SIDE OVERCURRENT PROTECTION
	F3	4	COMMUNICATION ERROR BETWEEN POWER MODULE AND MAIN PCB
	F19	6	SUPPLY VOLTAGE TOO HIGH/LOW
	F27	7	SUPPLY VOLTAGE INCORRECT/POWER MODULE FAULTY/COMPRESSOR BLOCKED
	F4	8	COMPRESSOR DRAIN PIPE OVERHEATING PROTECTION
	F8	9	DC FAN MOTOR PROTECTION
	F21	10	DEFROST TEMPERATURE SENSOR FAULTY
	F7	11	INTAKE TEMPERATURE SENSOR FAULTY
	F6	12	AMBIENT TEMPERATURE SENSOR FAULTY
	F25	13	COMPRESSOR DRAIN TEMPERATURE SENSOR FAULTY
	F13	16	LACK OF REFRIGERANT
	F14	17	FAULTY 4-WAY VALVE
	F11	18	FAULTY INVERTER CIRCUIT, DAMAGED POWER MODULE/PCB/COMPRESSOR
	F11	18	COMPRESSOR FAULT
	F28	19	INCORRECT POSITIONING OF COMPRESSOR ROTOR
	F15	20	BOARD/TERMINAL OVERHEATING PROTECTION
	F2	24	COMPRESSOR OVERCURRENT PROTECTION
	F23	25	OVERCURRENT PROTECTION OF A COMPRESSOR WINDING

IU CIRCUIT DIAGRAM 2.5kW - 3.5kW - 5.0kW - 6.8kW



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used.
ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control).

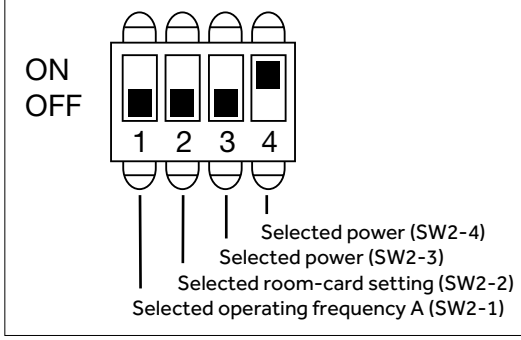
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

	6.8 kW	5.0 kW	3.5 kW	2.5 kW
SW2-3	OFF	OFF	OFF	OFF
SW2-4	ON	OFF	ON	OFF

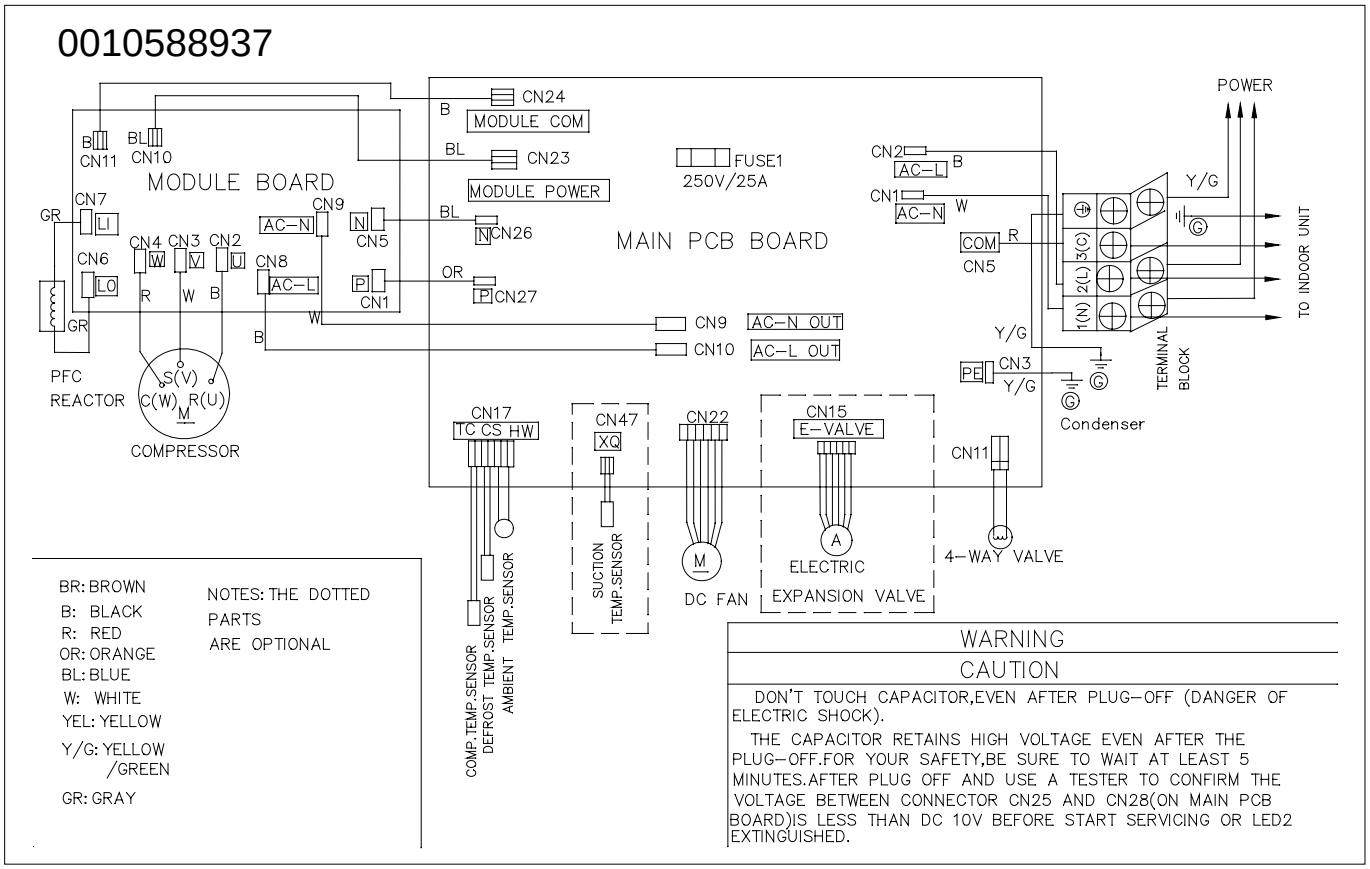
	TUNDRA 2.0
J1	ON
J2	OFF
J3	ON

SW2 setting example

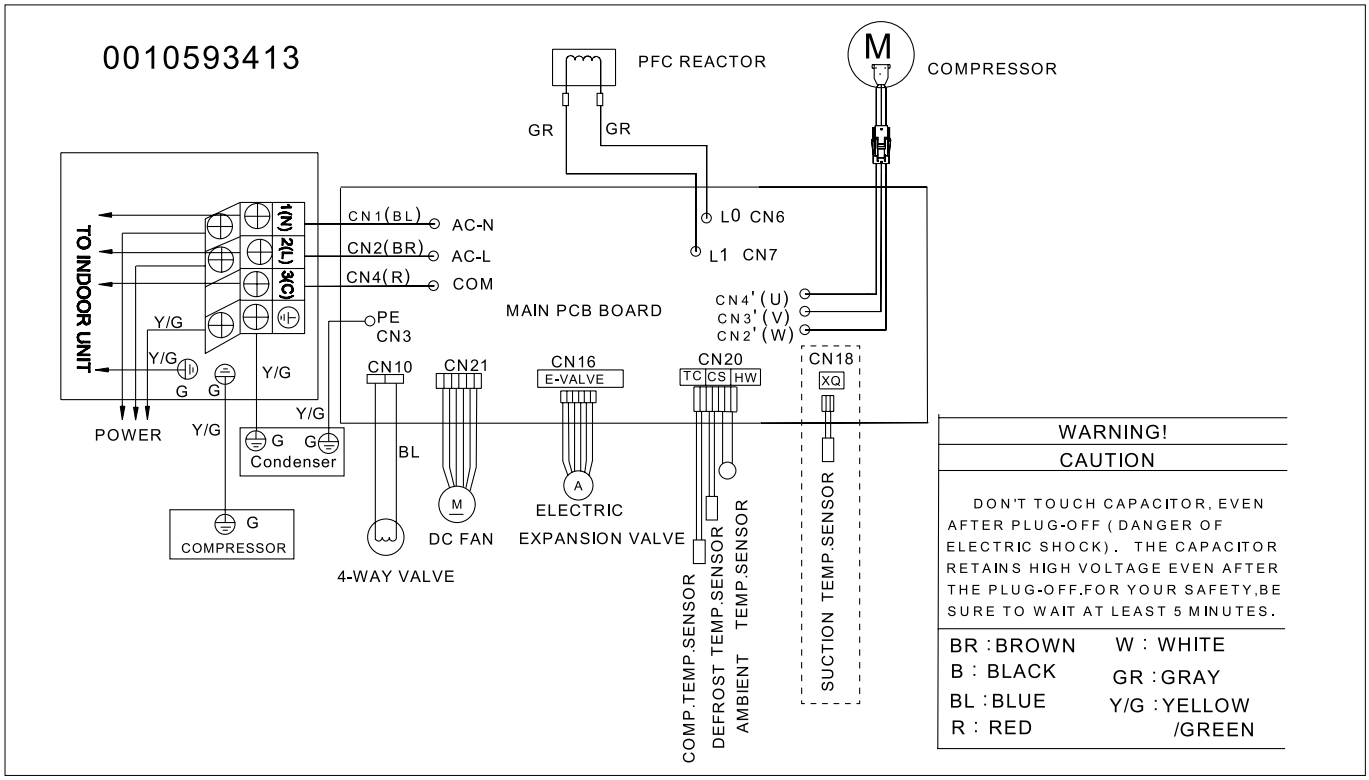


Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

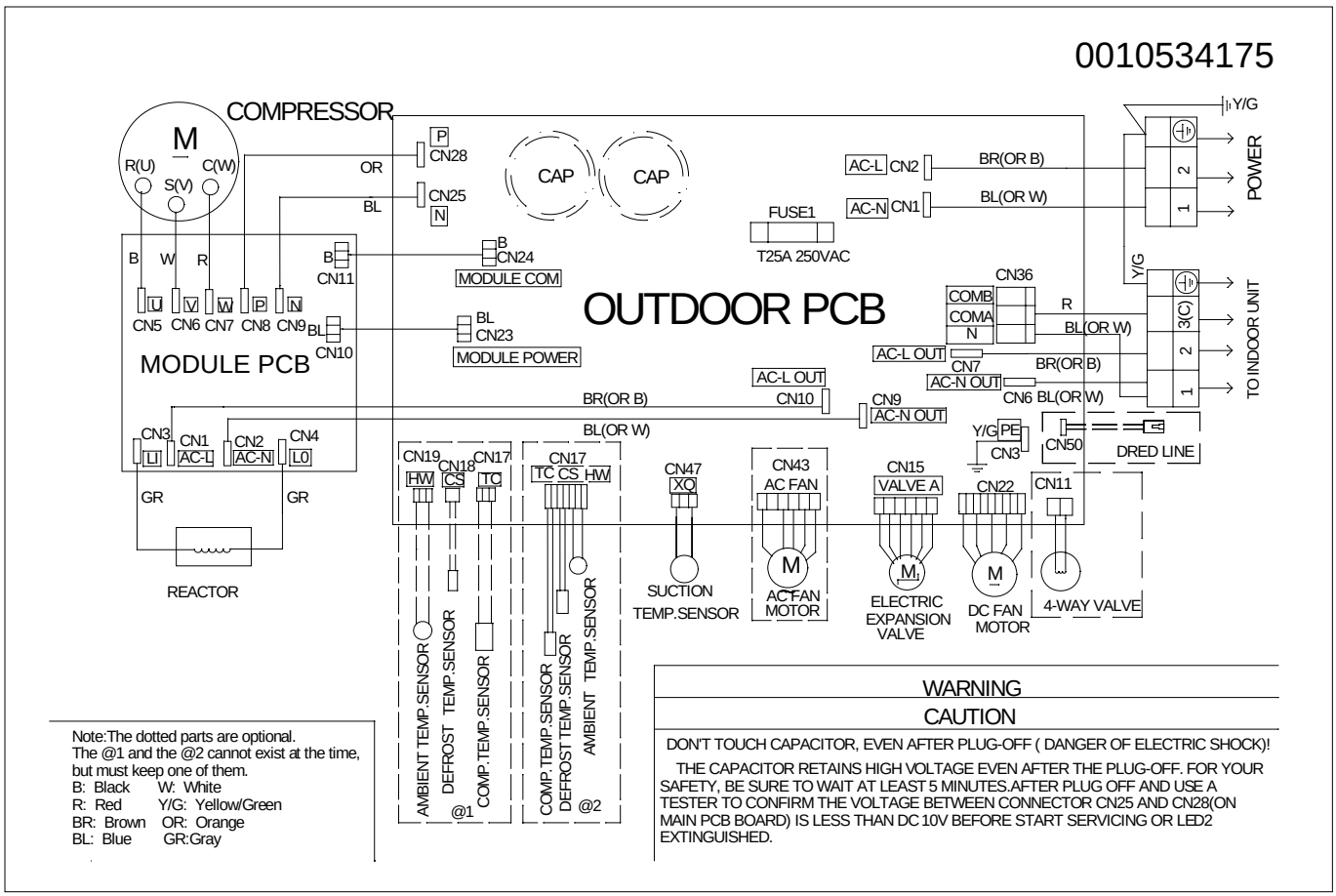
OU CIRCUIT DIAGRAM 2.5 kW



OU CIRCUIT DIAGRAM 3.5 kW - 5.0 kW



OU CIRCUIT DIAGRAM 6.8 kW



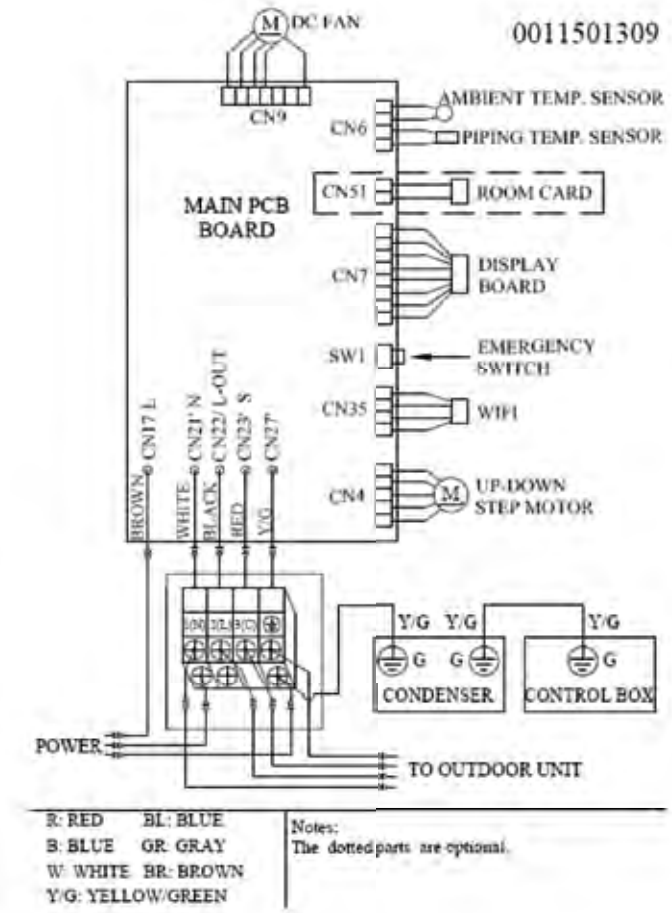
HSU-09TK1/R32(DB)-IN HSU-09TK1/R32(DB)-OUT HSU-18TK1/R32(DB)-IN HSU-18TK1/R32(DB)-OUT

HSU-12TK1/R32(DB)-IN HSU-12TK1/R32(DB)-OUT HSU-24TK1/R32(DB)-IN HSU-24TK1/R32(DB)-OUT

DIAGNOSTICS (For HEC TIDE / GEOS models)

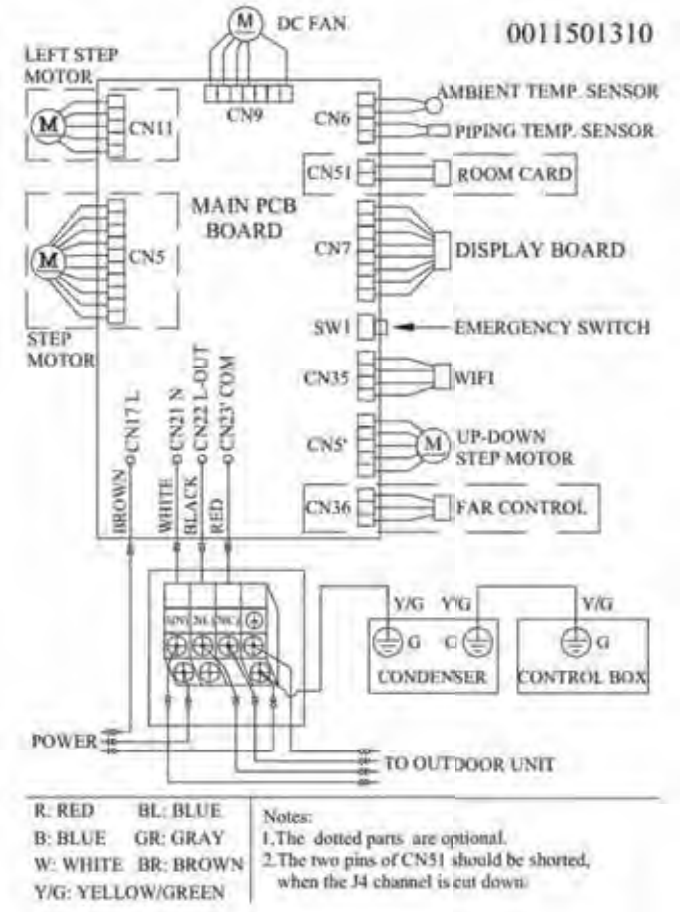
DISPLAY	TIDE			Type of failure	Description / Cause	Error code on outdoor unit (flashing LED or display)	Failure on indoor/ outdoor unit
	Power	Timer	Run				
E7	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
E9	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/ problem in wiring between board and float		Unit Indoor
E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
E6				Reverse phase protection /high - low pressure	Reverse phase protection /high - low pressure		
E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		
F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Unit Outdoor
F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine.	2	
F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
F2	S	L	A	Compressor overcurrent with increasing/ decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
F9				Reset	Reset the faulty system / power module	26	
F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
				Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
				Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	

IU CIRCUIT DIAGRAM 9K



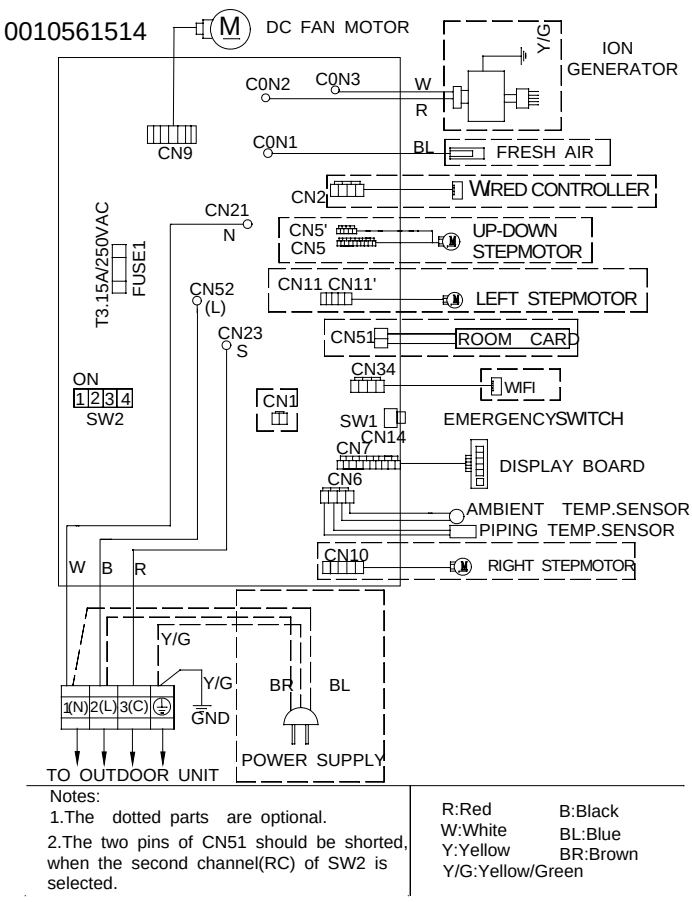
	2.5 kW	3.5 kW
J0	--	ON
J1	ON	OFF
J2	ON	ON
J3	ON	OFF
J4	ON	--

IU CIRCUIT DIAGRAM 12K



	2.5 kW	3.5 kW
J0	--	ON
J1	ON	OFF
J2	ON	ON
J3	ON	OFF
J4	ON	--

IU CIRCUIT DIAGRAM 18K - 24K



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

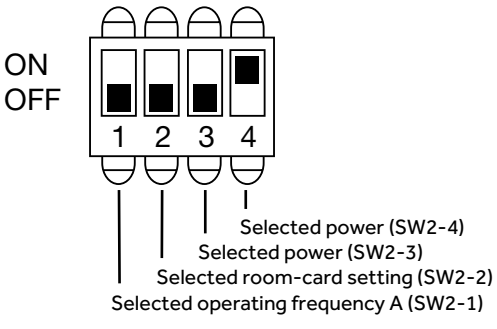
OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used.
ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control).

Selecting the indoor unit capacity (SW2-3) and (SW2-4):

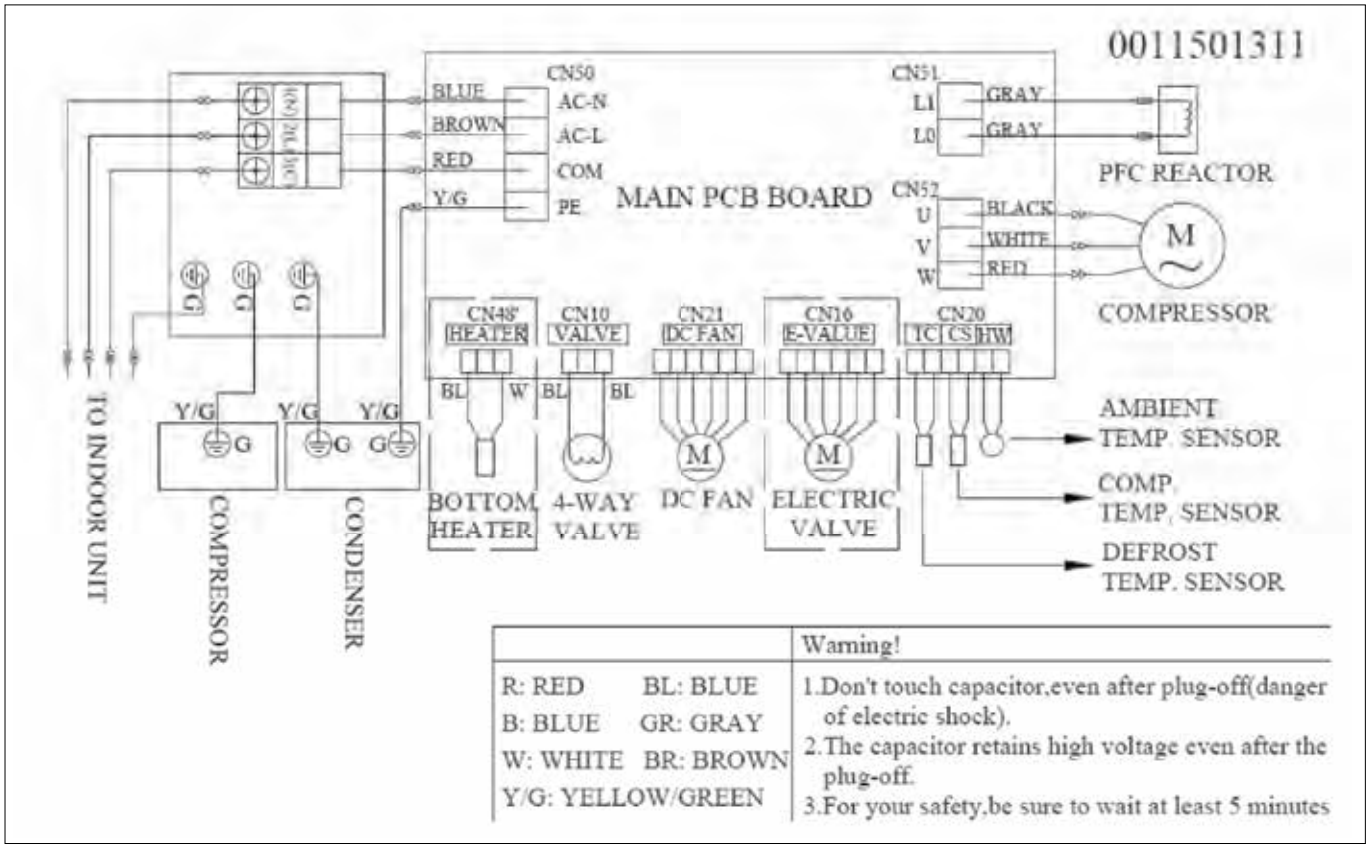
Using switches 3 and 4 you can select the capacity of the indoor unit:

	6.8 kW	5.0 kW	3.5 kW	2.5 kW
SW2-3	OFF	OFF	OFF	OFF
SW2-4	ON	OFF	ON	OFF

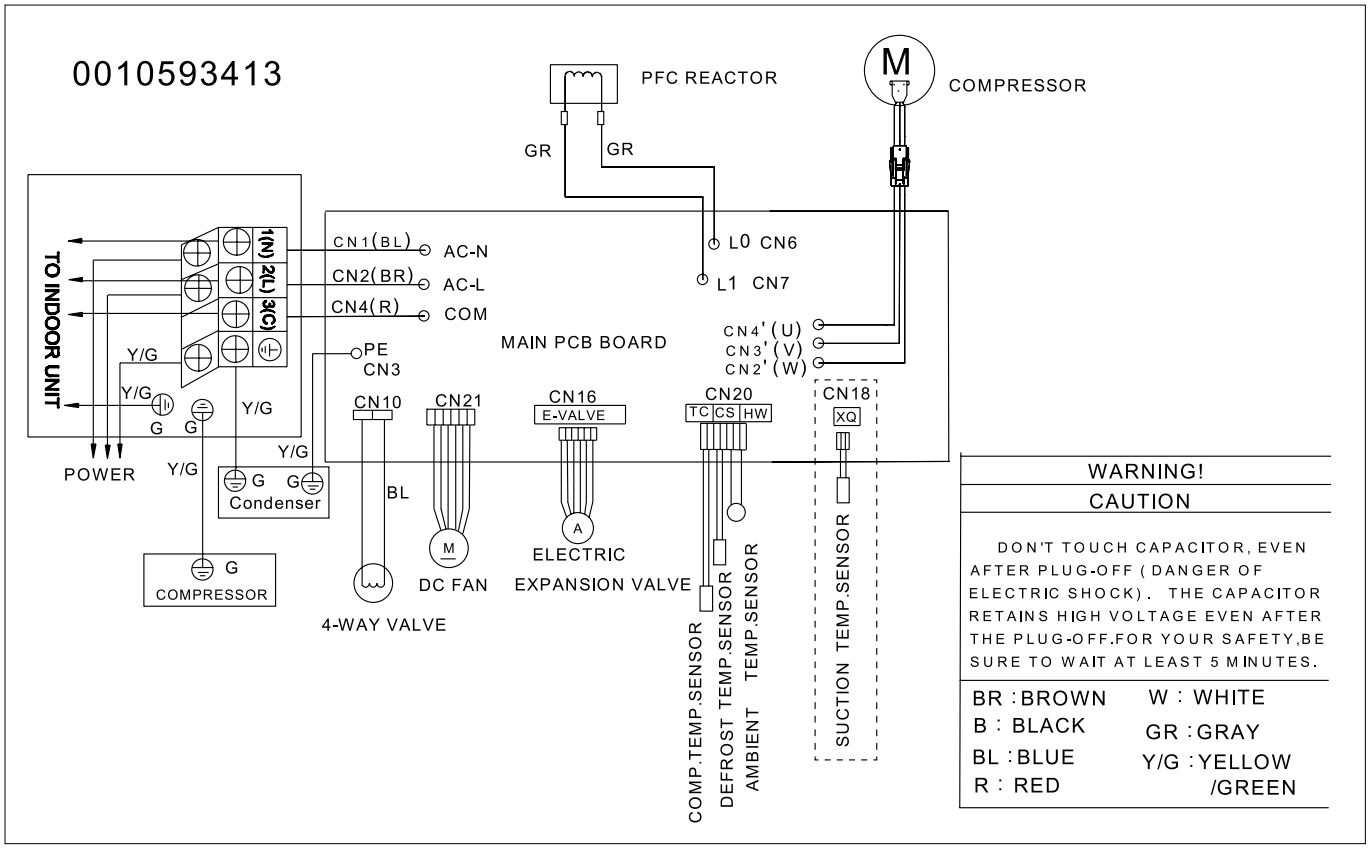
SW2 setting example



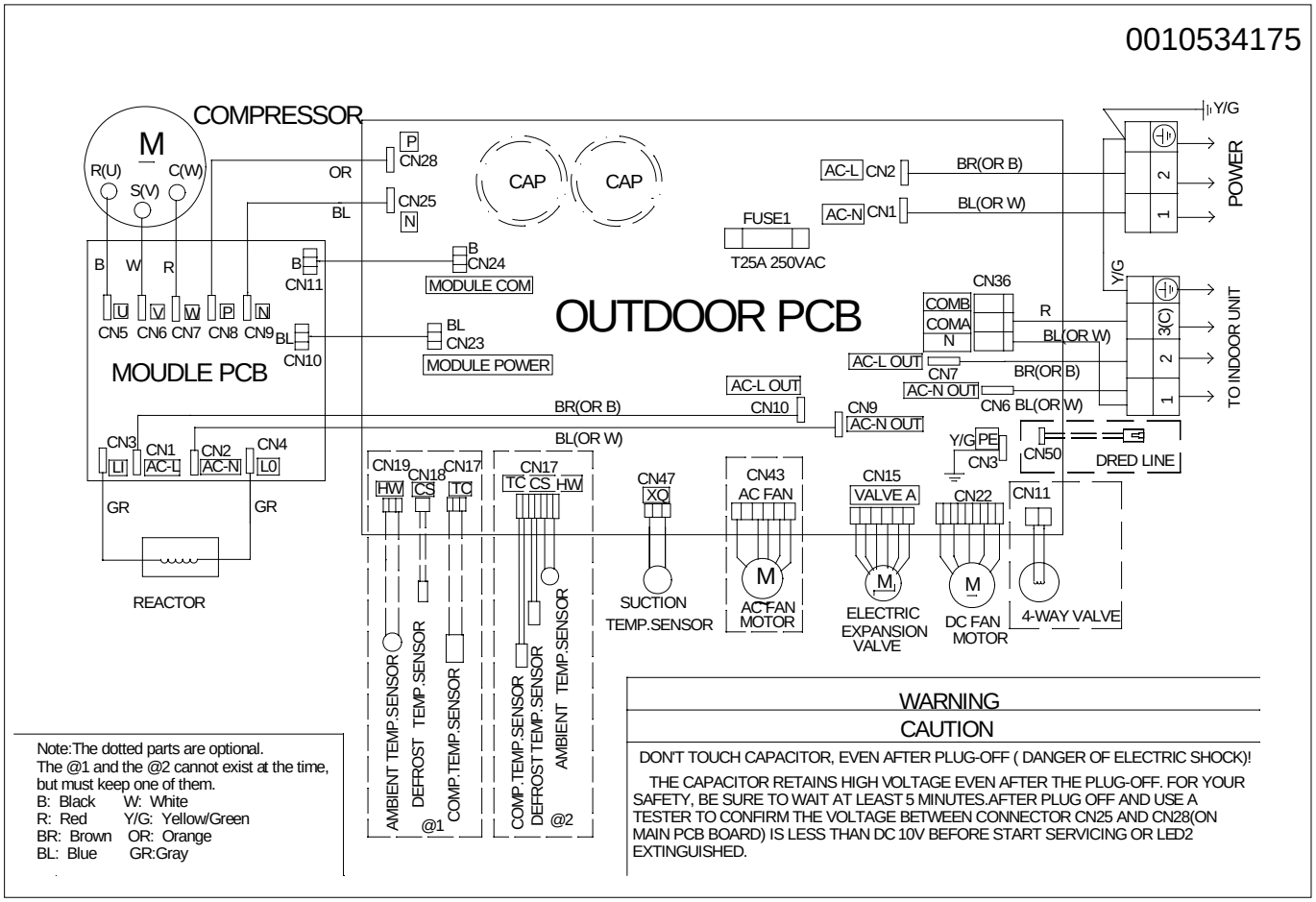
OU CIRCUIT DIAGRAM 9K - 12K



OU CIRCUIT DIAGRAM 18K



OU CIRCUIT DIAGRAM 24K

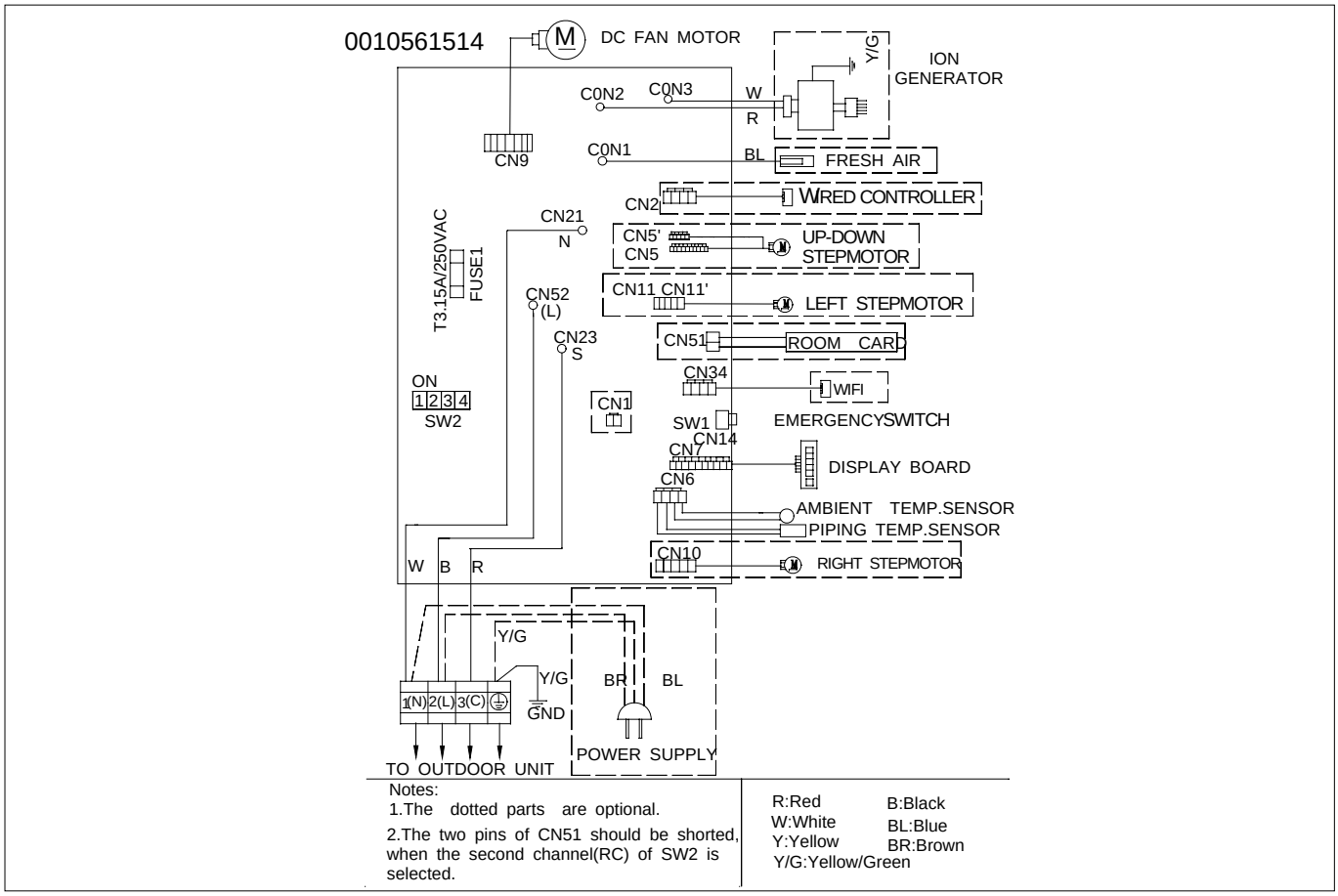


Indoor units	Outdoor units
HSU-09TK1/R32(DB)-INM	H2SU-14TK/R32(DB)-OUT
HSU-12TK1/R32(DB)-INM	H2SU-18TK/R32(DB)-OUT

DIAGNOSTICS

For diagnostics, see page 119.

IU CIRCUIT DIAGRAM 9K - 12



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used.
ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control).

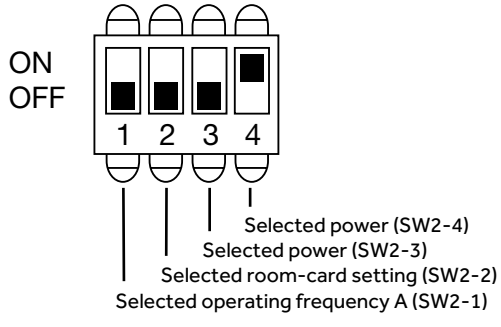
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

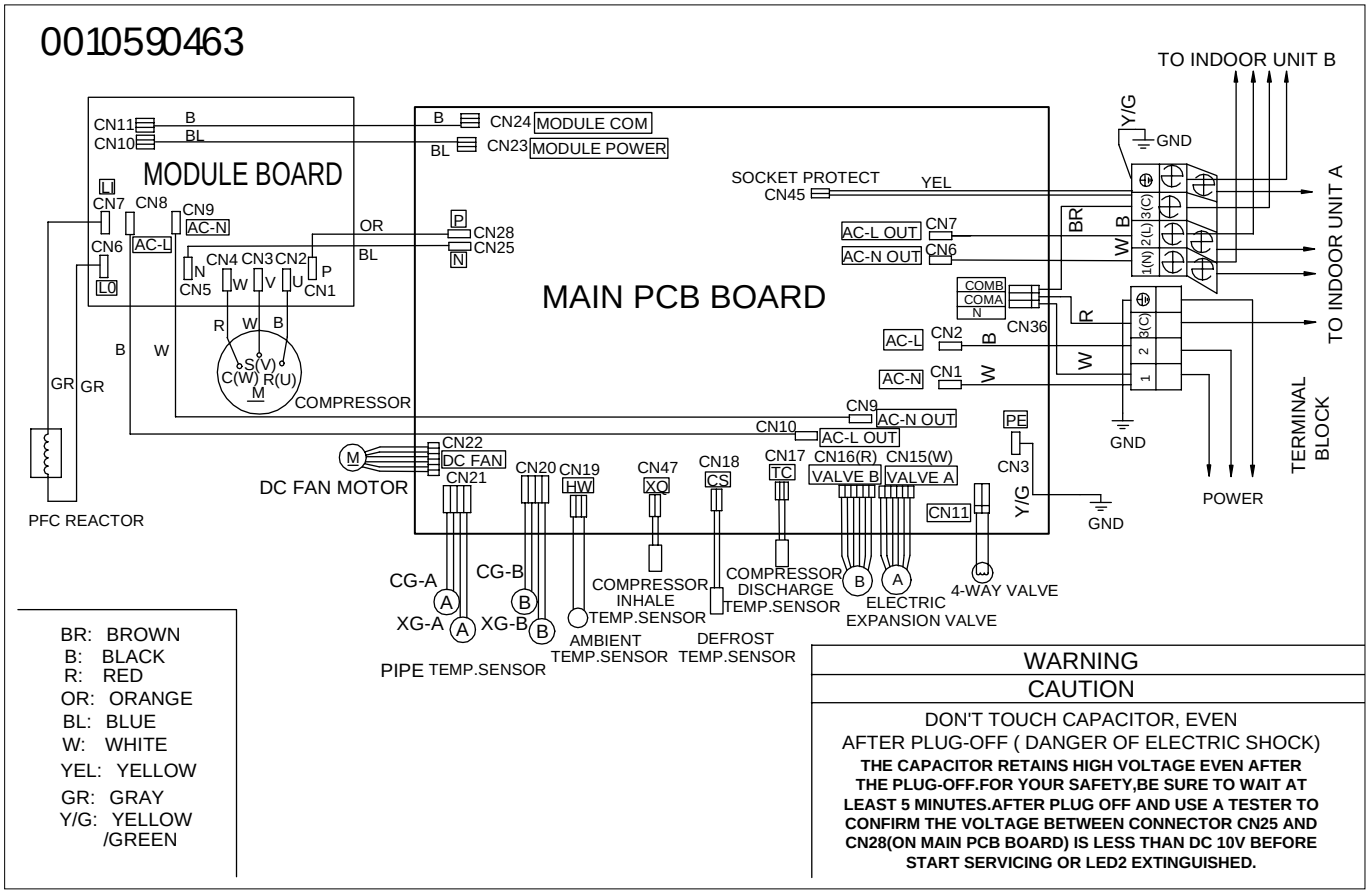
	3.5 kW	2.5 kW
SW2-3	OFF	OFF
SW2-4	OFF	OFF

	3.5 kW	2.5 kW
J1	OFF	OFF
J2	OFF	OFF

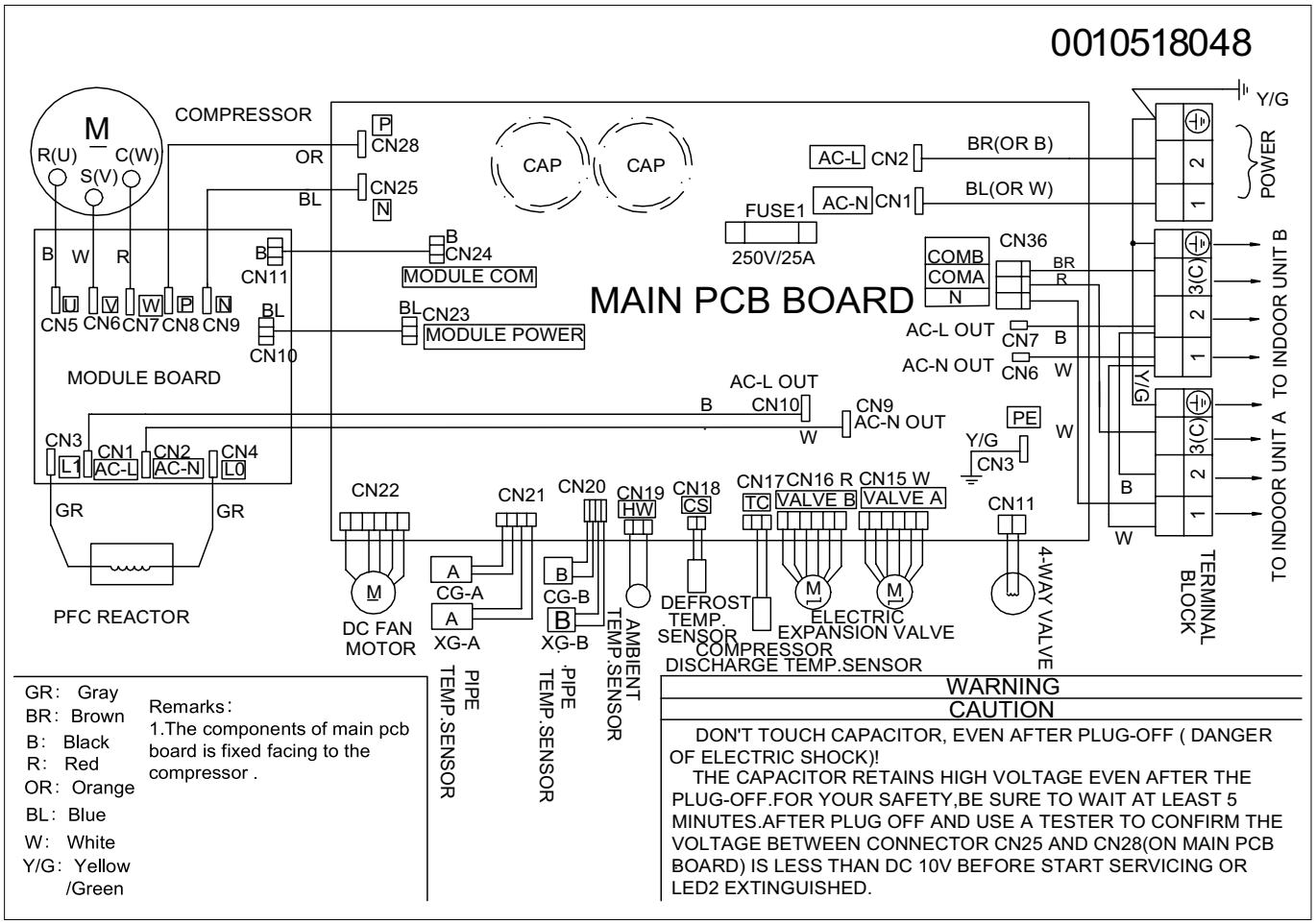
SW2 setting example



OU CIRCUIT DIAGRAM 14K



OU CIRCUIT DIAGRAM 18K



Indoor-outdoor units

AS25THMHRA - 1U25YEMFRA

AS35TAMHRA - 1U35YEMFRA

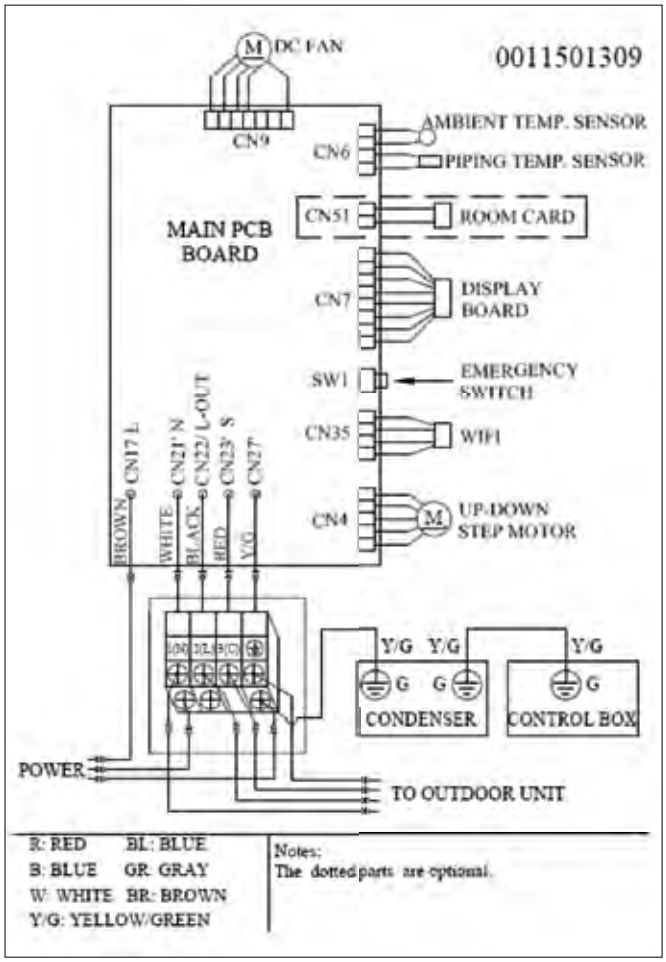
AS50TDMHRA - 1U50MEMFRA

AS68TEMHRA - 1U68REMFRA

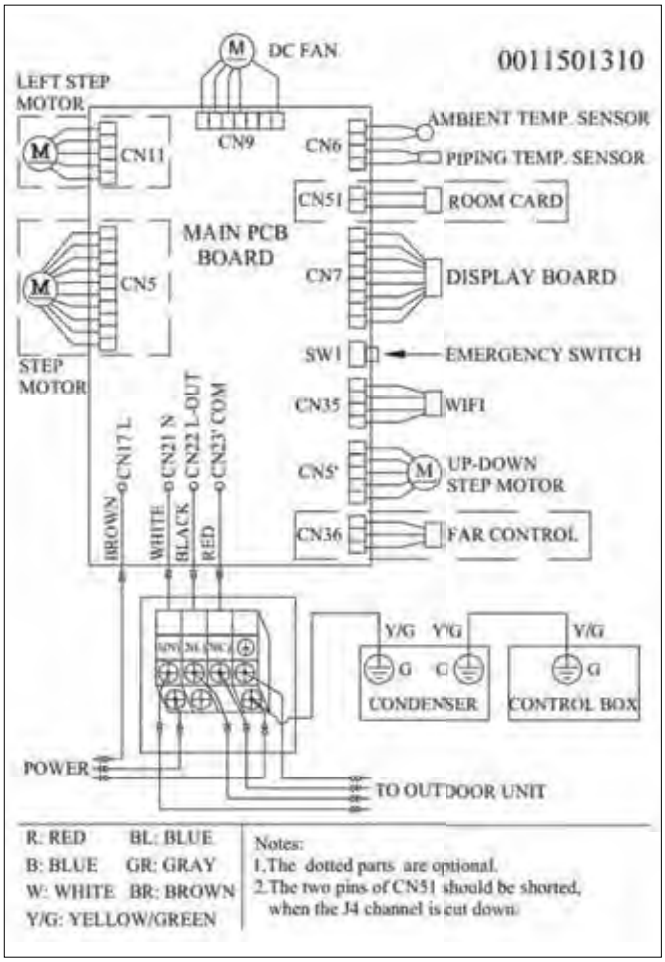
DIAGNOSTICS

For diagnostics, see page 119.

IU CIRCUIT DIAGRAM 2.5 kW

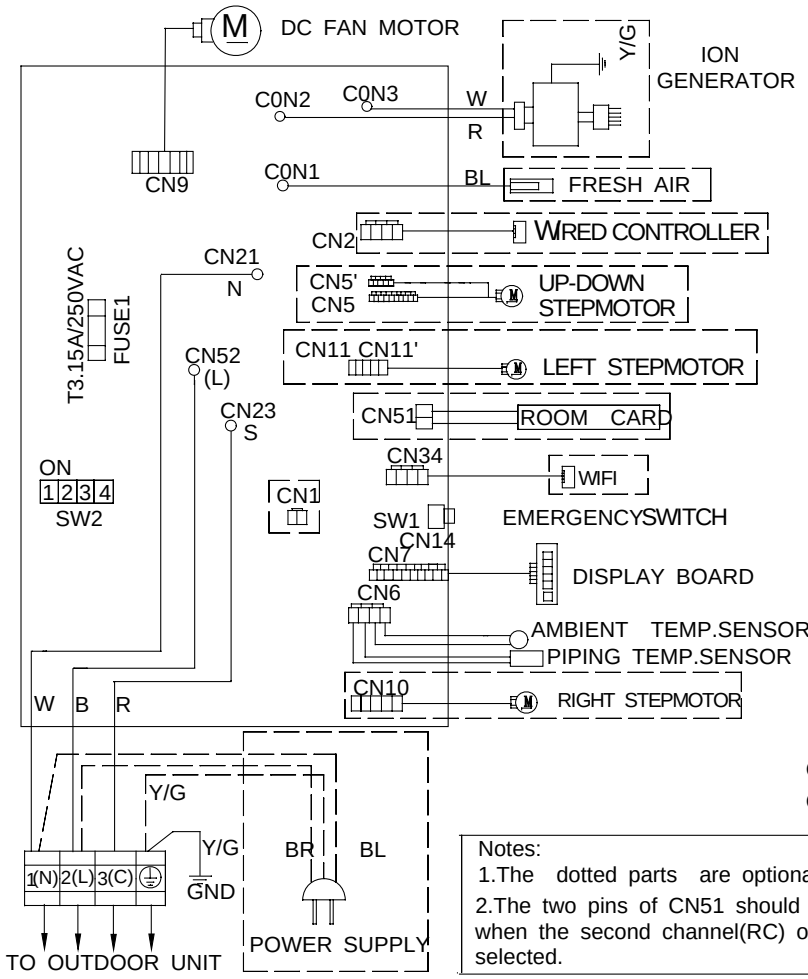


IU CIRCUIT DIAGRAM 3.5 kW



	2.5 kW	3.5 kW
J0	--	ON
J1	ON	OFF
J2	ON	ON
J3	ON	OFF
J4	ON	--

IU CIRCUIT DIAGRAM 5.0 kW - 6.8 kW



0010561514

CN34: WIFI module connection
CN51: Room card contact

Notes:
1.The dotted parts are optional.
2.The two pins of CN51 should be shorted, when the second channel(RC) of SW2 is selected.

R:Red B:Black
W:White BL:Blue
Y:Yellow BR:Brown
Y/G:Yellow/Green

INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

Selecting the indoor unit capacity (SW2-3) and (SW2-4):

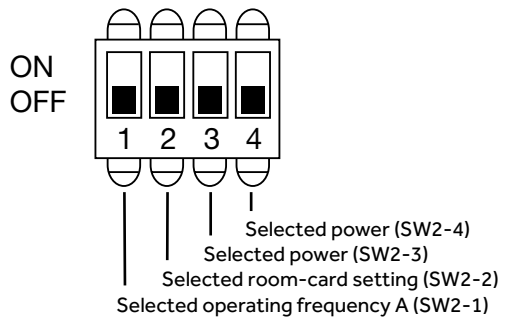
Using switches 3 and 4 you can select the capacity of the indoor unit:

	6.8 kW	5.0 kW
SW2-3	OFF	OFF
SW2-4	ON	OFF

Important: Cut the jumpers **J1**, **J2** on board depending on the split on which the electronic board will be installed. (already cut in factory depending on the model).
This procedure is essential in order for the main board to communicate correctly with the receiving display/board.

	GEOS+
J1	OFF
J2	OFF

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

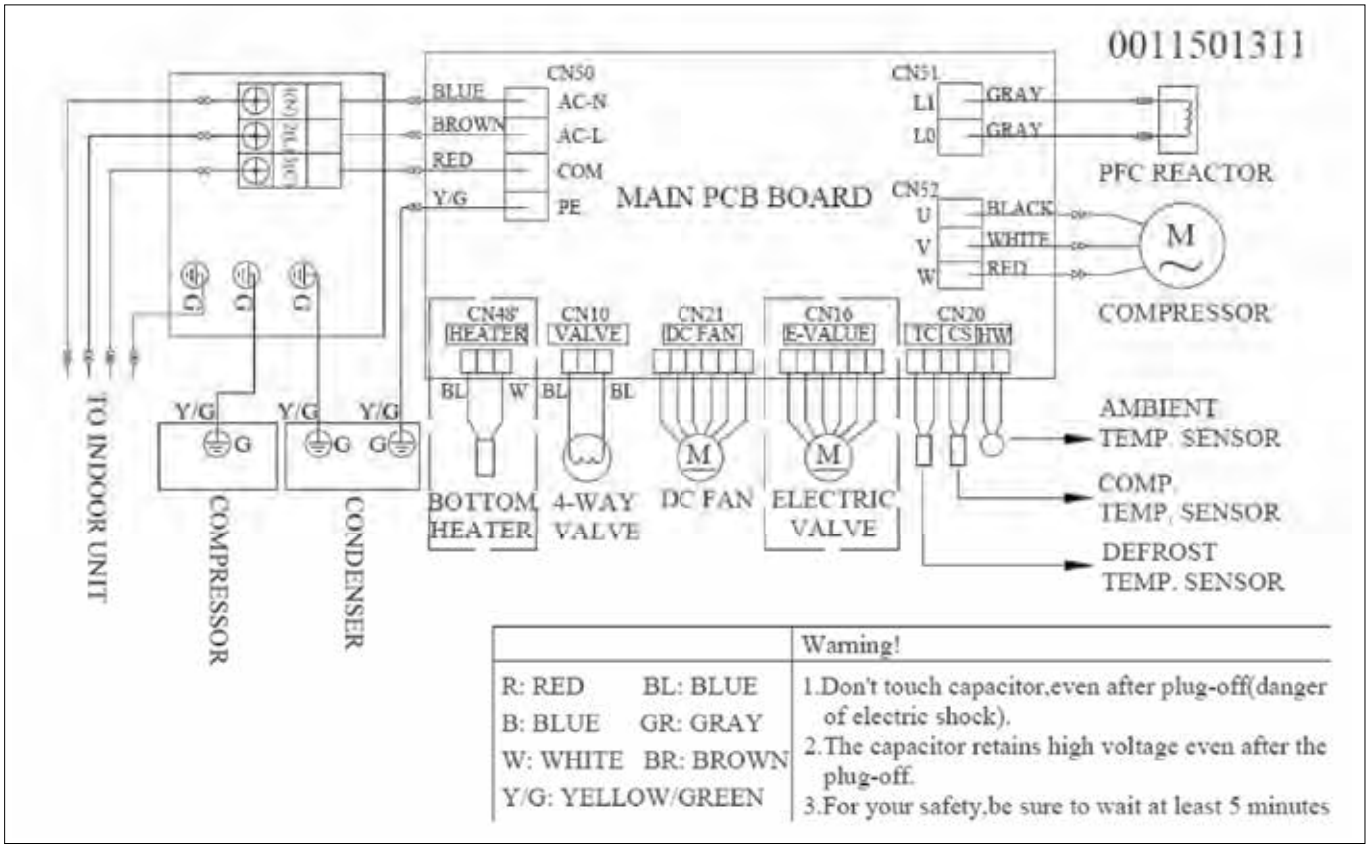
Activating/deactivating power-saving feature of the fan motor in cooling mode:
Directing the remote control to the indoor unit:

1. Press the "AUTO" button
2. Press the "HEALTH" button 6 times

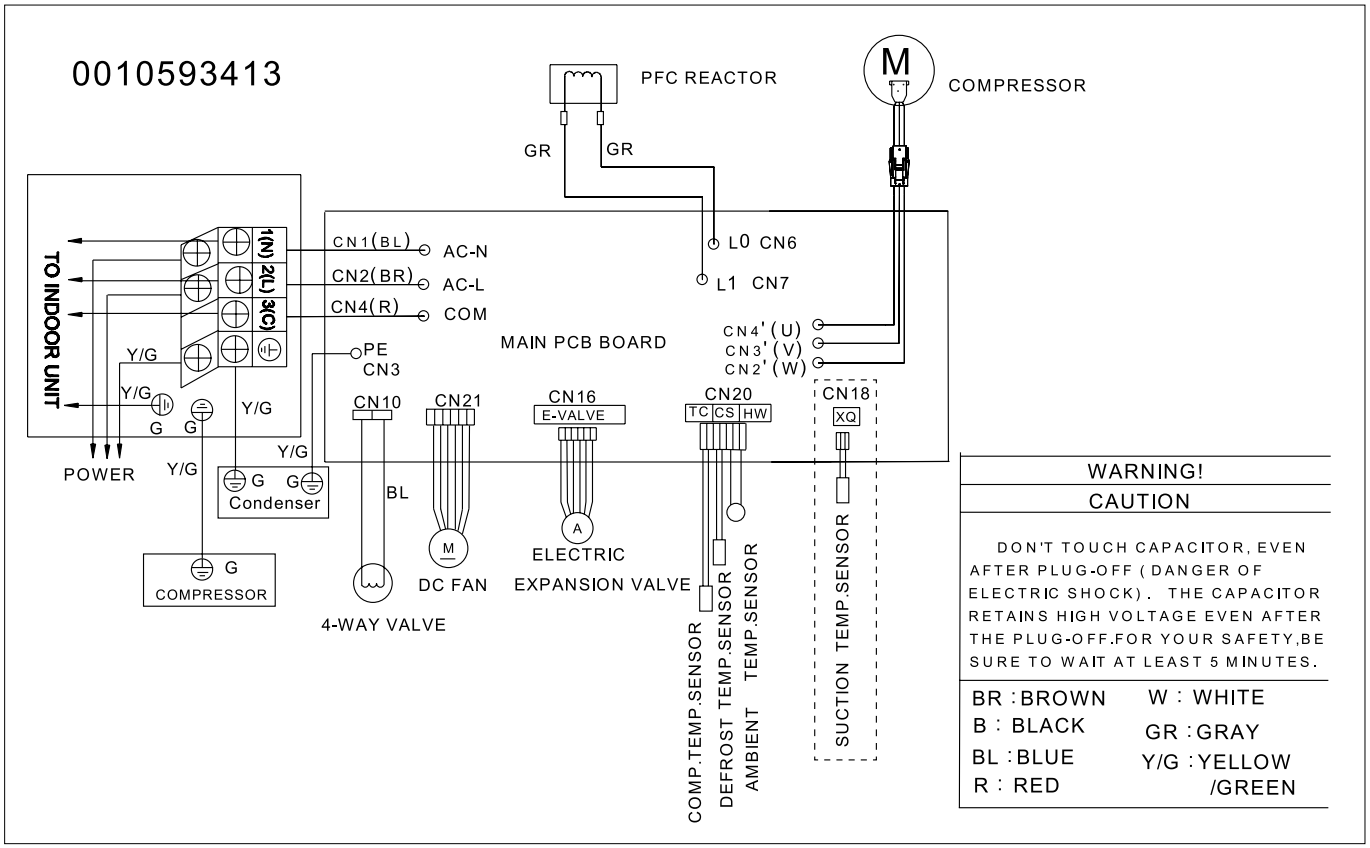
The indoor unit will respond with 2 "BEEP" sounds and the echo function will be disabled.
The fan will always be in operation, even if the set ambient temperature is reached.

By repeating steps 1 and 2, the indoor unit will respond with 4 "BEEP" sounds and the echo function will be reactivated.
The fan will be stopped when the set ambient temperature is reached.

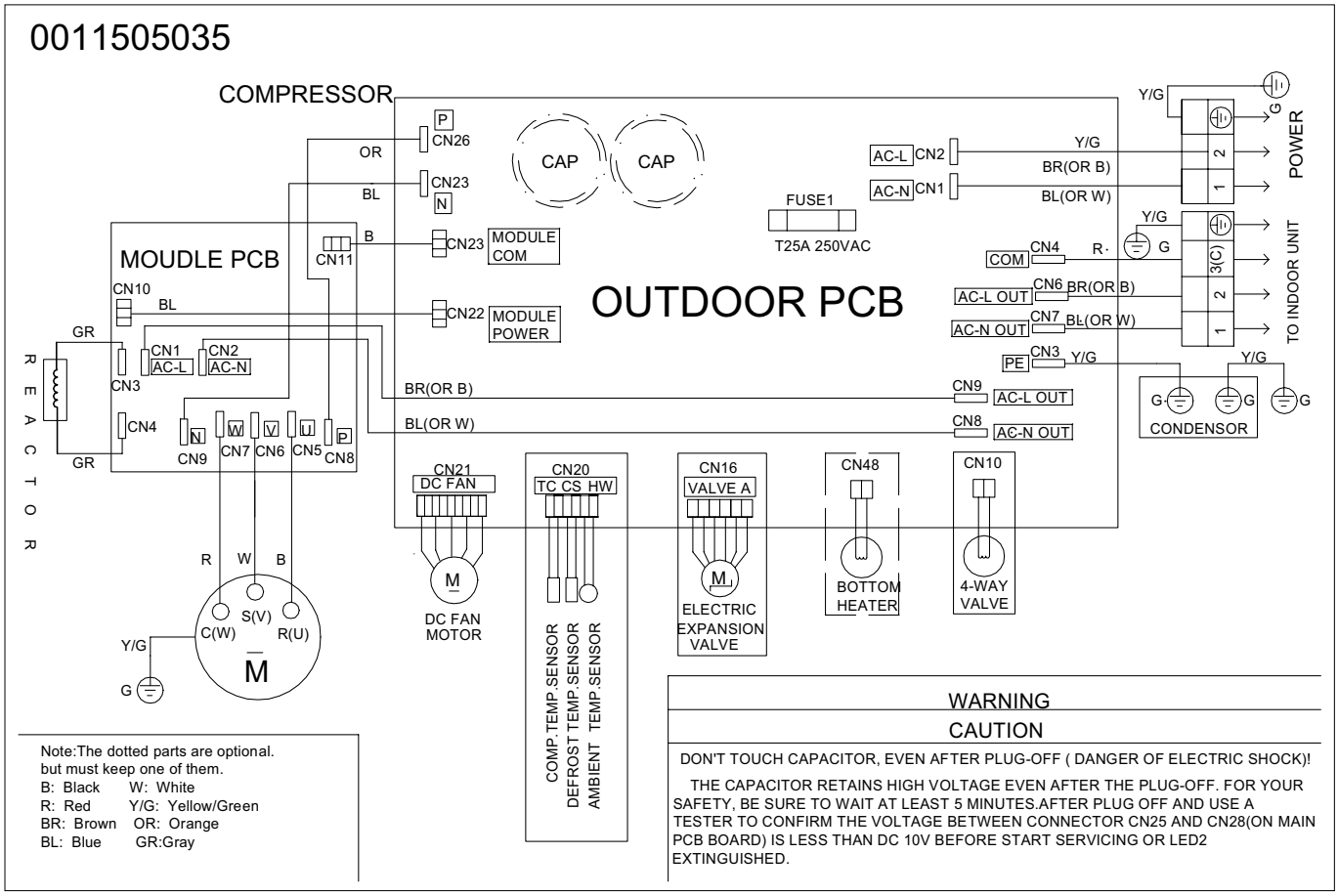
OU CIRCUIT DIAGRAM 2.5 kW, 3.5 kW



OU CIRCUIT DIAGRAM 5.0 kW



OU CIRCUIT DIAGRAM 6.8 kW

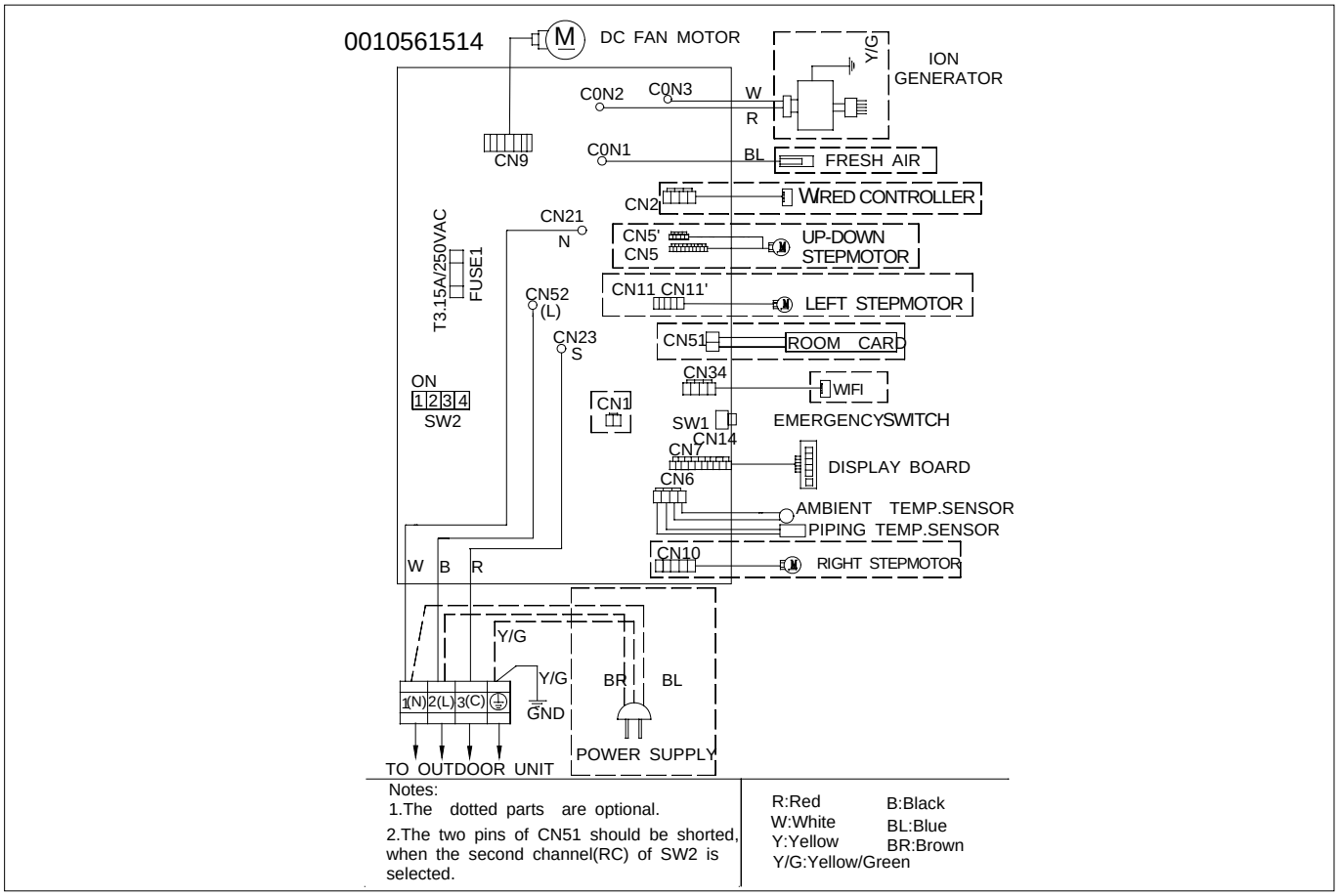


Indoor units	Outdoor units
AS25TEDHRA(M)	2U40MEFFRA
AS35TEDHRA(M)	2U50MEFFRA

DIAGNOSTICS

For diagnostics, see page 119.

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW



INDOOR UNIT SETTING:

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used.
ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control).

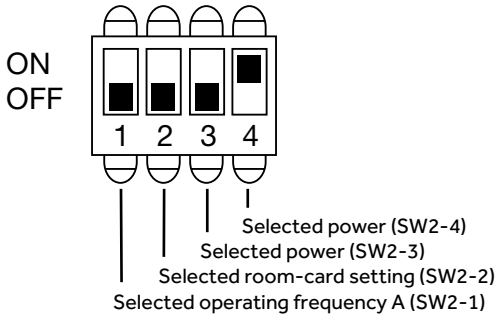
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

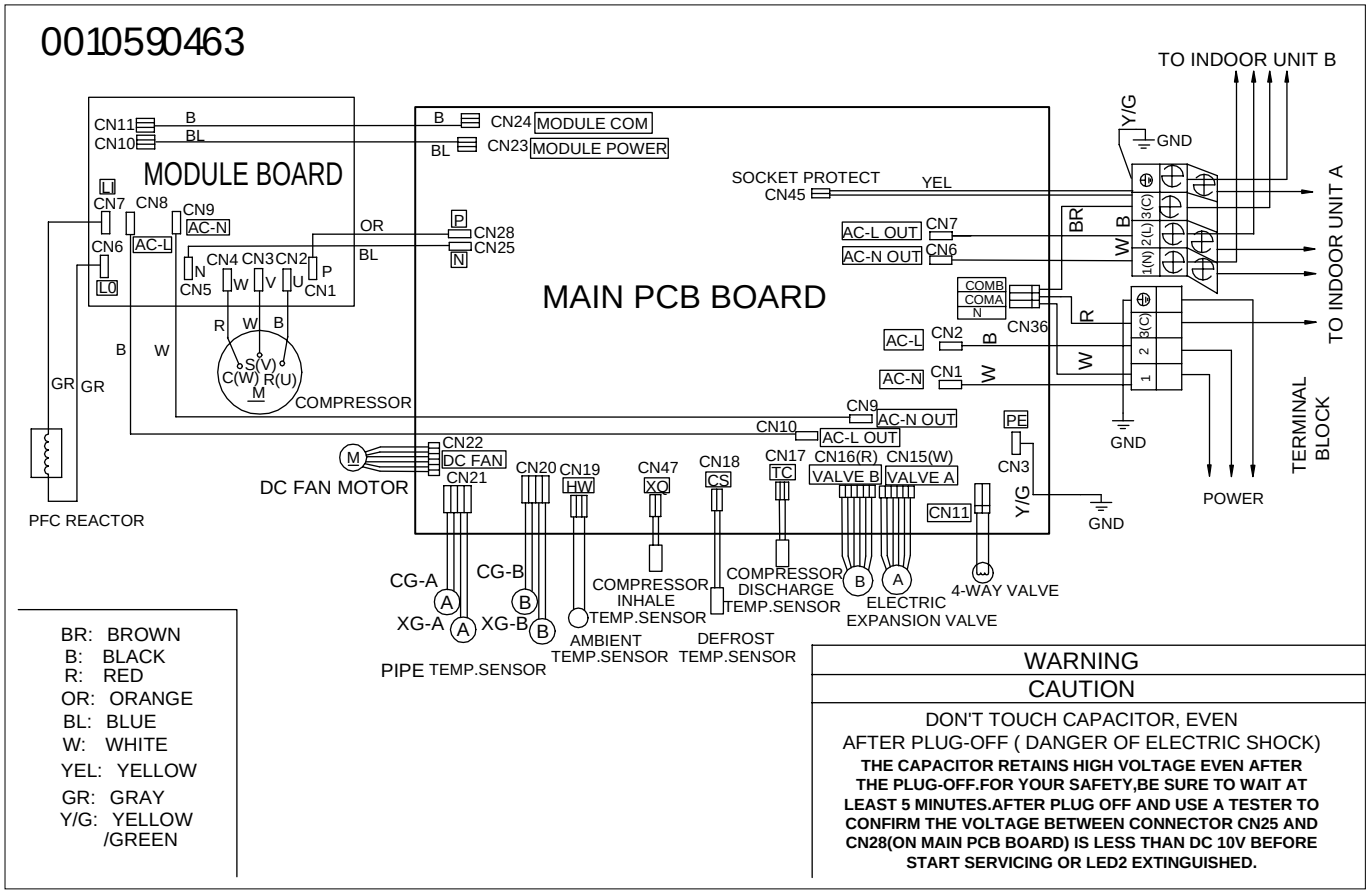
	3.5 kW	2.5 kW
SW2-3	OFF	OFF
SW2-4	OFF	OFF

	3.5 kW	2.5 kW
J1	OFF	OFF
J2	OFF	OFF

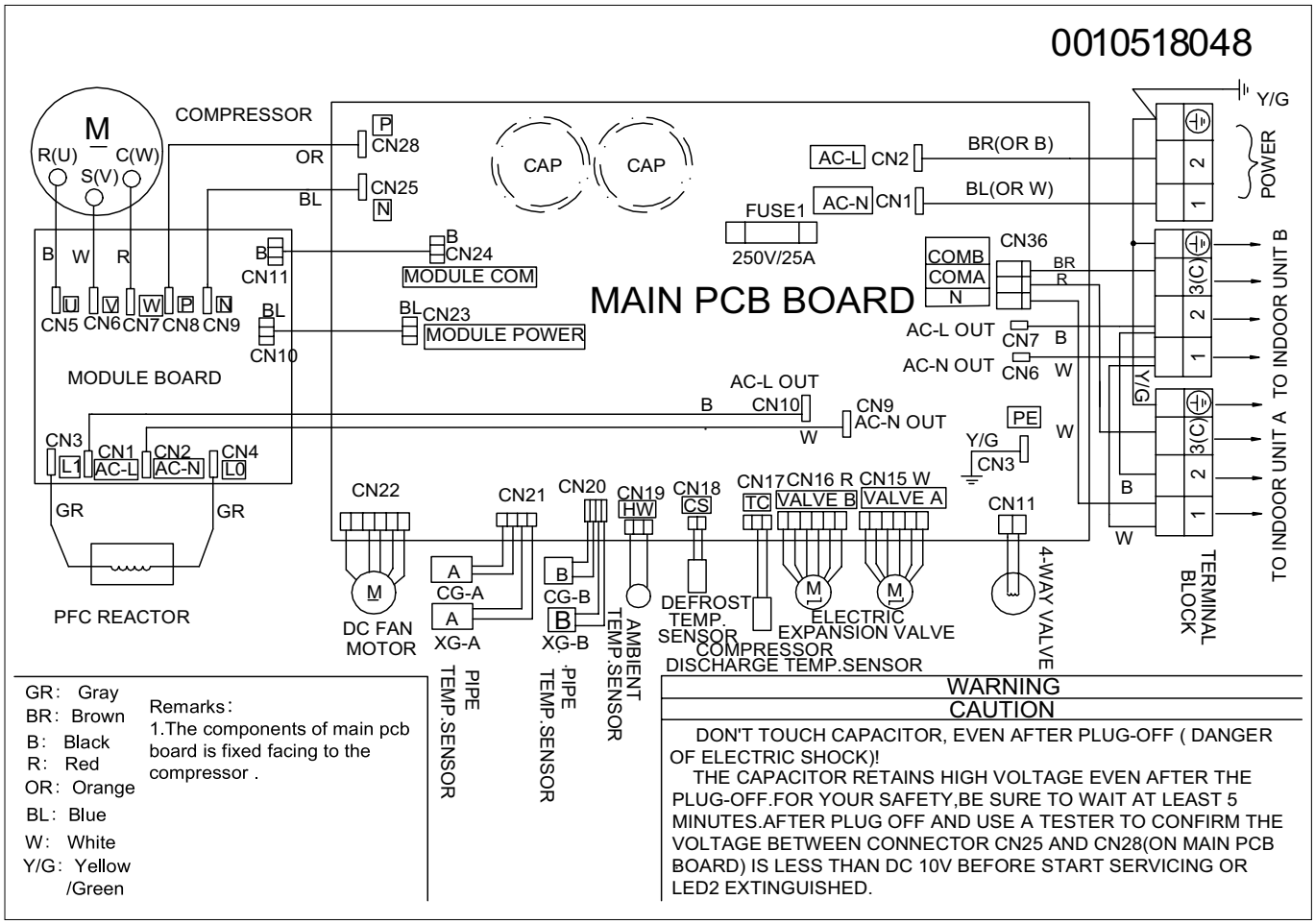
SW2 setting example



OU CIRCUIT DIAGRAM 4.0 kW



OU CIRCUIT DIAGRAM 5.0 kW



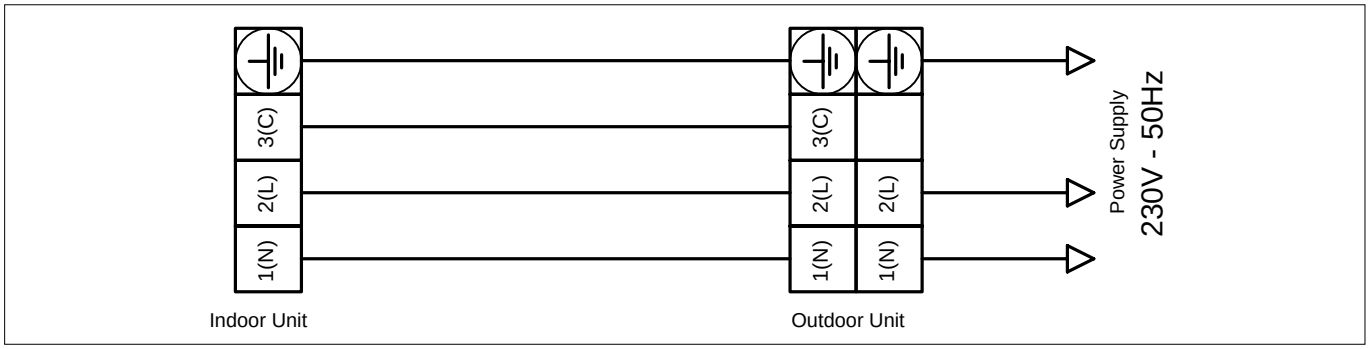
FUTURE BLACK

GES-NJGB25IN-20	GES-NJG25OUT-20
GES-NJGB35IN-20	GES-NJG35OUT-20
GES-NJGB50IN-20	GES-NJG50OUT-20

FUTURE WHITE

GES-NJGW25IN-20	GES-NJG25OUT-20
GES-NJGW35IN-20	GES-NJG35OUT-20
GES-NJGW50IN-20	GES-NJG50OUT-20

WIRING DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW

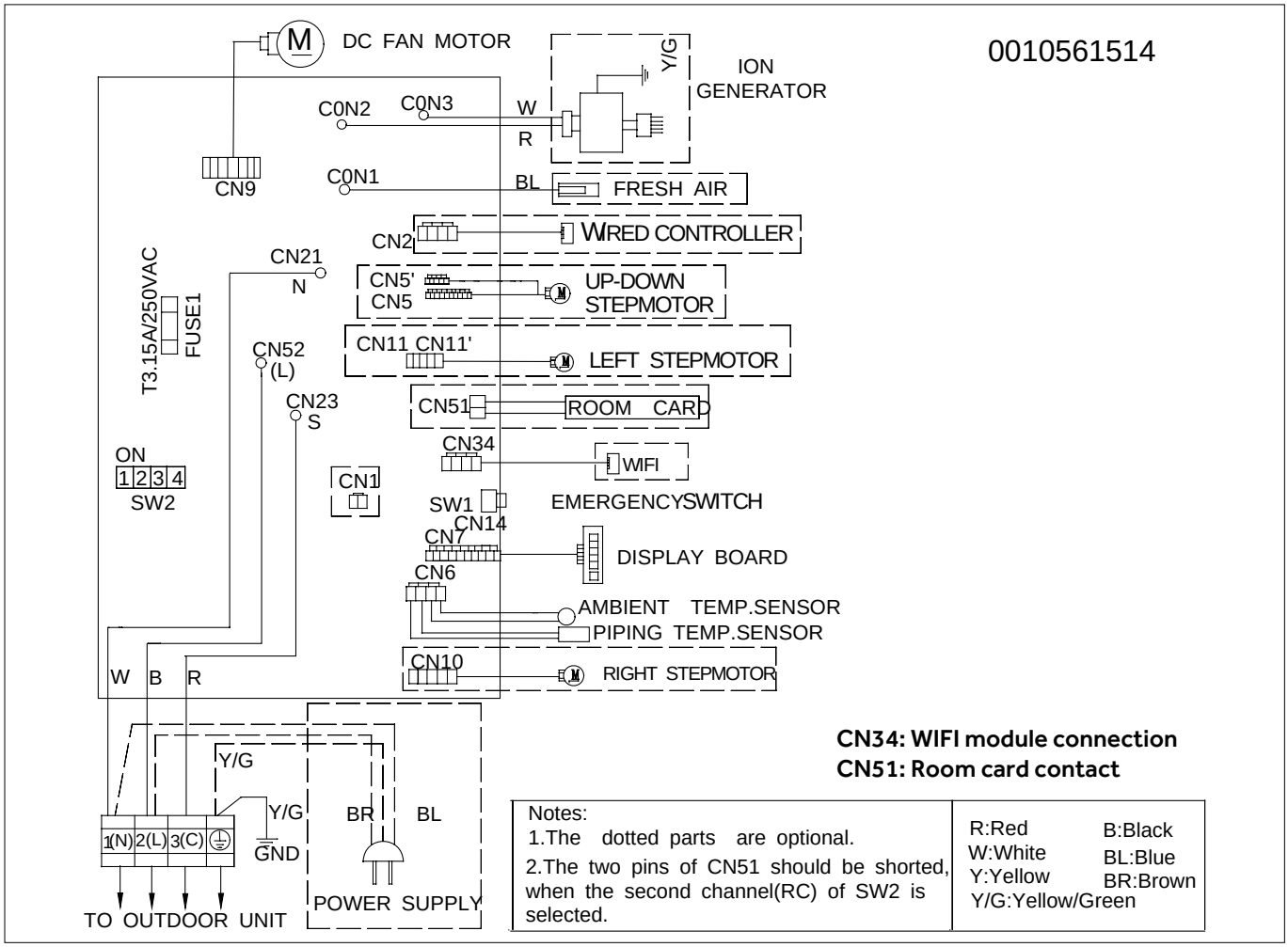


INDOOR UNIT	Model		GES-NJGB25IN-20 (black) GES-NJGW25IN-20 (white)	GES-NJGB35IN-20 (black) GES-NJGW35IN-20 (white)	GES-NJGB50IN-20 (black) GES-NJGW50IN-20 (white)
OUTDOOR UNIT	Model		**GES-NJG25OUT-20**	**GES-NJG35OUT-20**	**GES-NJG50OUT-20**
Indoor unit technical data					
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50
Treated air volume		m^3/h	600	650	900
Dimensions	WxDxH	mm	887x211x281	887x211x281	1030x233x2322
Net weight		kg	10	10	13
Outdoor unit technical data					
Liquid pipe Ø		mm	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7
Standard pipe length without refrigerant charge		m	7	7	7
Maximum pipe length		m	15	15	25
Maximum IU - OU elevation		m	10	10	15
Refrigerant charge in the factory		kg	0.65	0.94	0.9
Equivalent tons of CO_2		TCO_2EQ	0.44	0.63	0.61
Additional refrigerant charge beyond standard length		g/m	20	20	20
Power Supply		V-Ph-Hz	230-1-50	230-1-50	
Outdoor unit power cable		mm^2	3G1.5	3G1.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5

DIAGNOSTICS

For diagnostics, see page 146.

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW



INDOOR UNIT SETTINGS 2.5 kW - 3.5 kW - 5.0kW

Selecting the frequency of remote control A or B (SW2-1):
Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.
OFF operating frequency "A"
ON operating frequency "B"

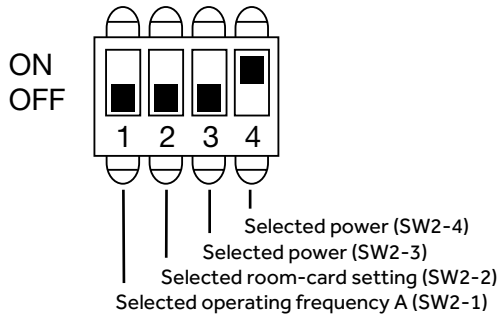
Selecting the room-card (indoor unit activation board) (SW2-2):
Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:
OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.
ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

Selecting the indoor unit capacity (SW2-3) and (SW2-4):
Using switches 3 and 4 you can select the capacity of the indoor unit:

	5.0 kW	3.5 kW	2.5 kW
SW2-3	ON	ON	OFF
SW2-4	OFF	ON	OFF

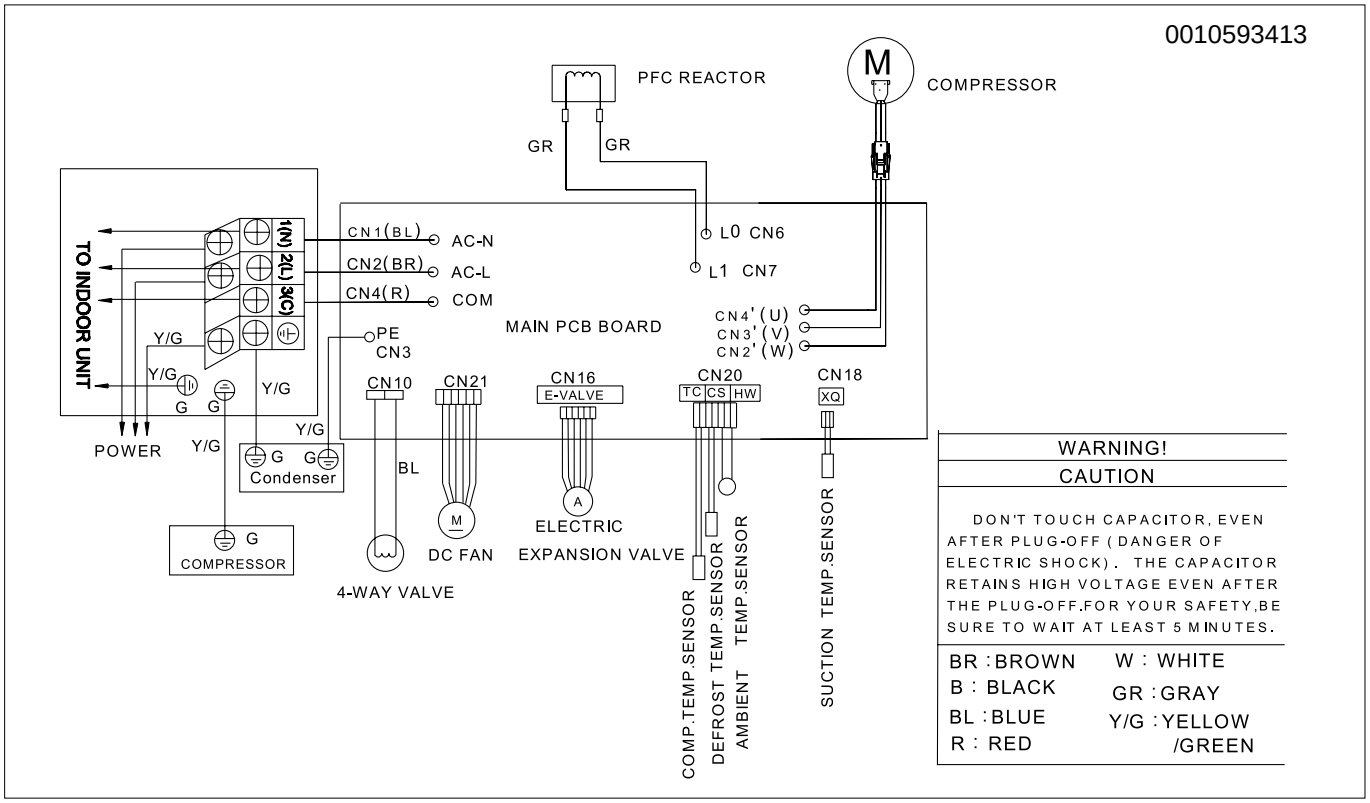
	FUTURE
J1	ON
J2	ON

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

OU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW



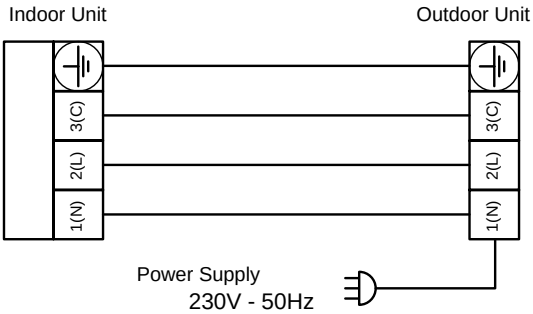
GES-NMG25IN-20 - GES-NMG25OUT-20

GES-NMG35IN-20 - GES-NMG35OUT-20

GES-NMG50IN-20 - GES-NMG50OUT-20

GES-NMG70IN-20 - GES-NMG70OUT-20

WIRING DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW - 7.0 kW

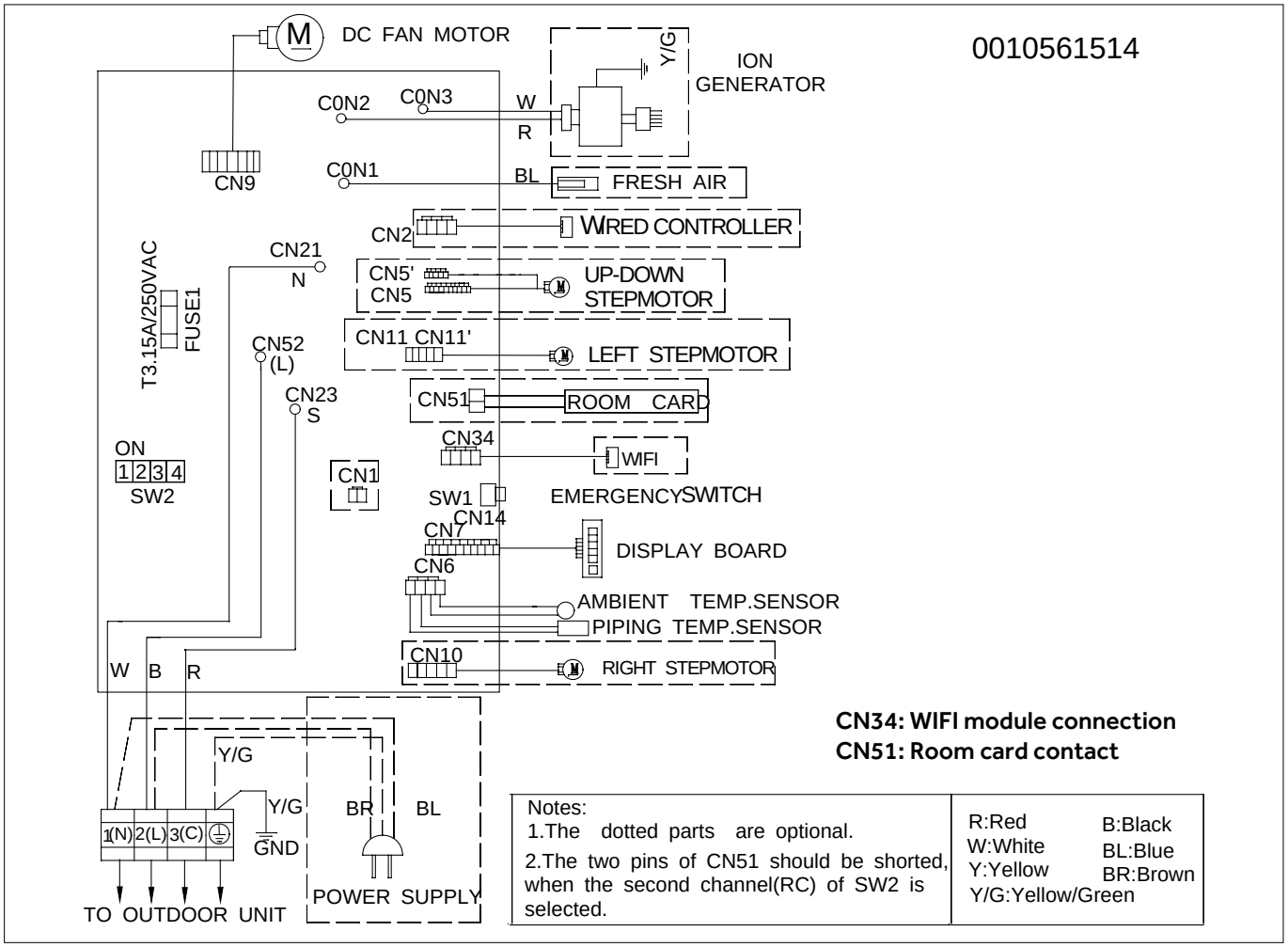


INDOOR UNIT	Model		**GES-NMG25IN-20**	**GES-NMG35IN-20**	**GES-NMG50IN-20**	**GES-NMG70IN-20**
OUTDOOR UNIT	Model		**GES-NMG25OUT-20**	**GES-NMG35OUT-20**	**GES-NMG50OUT-20**	**GES-NMG70OUT-20**
Indoor unit technical data						
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Treated air volume		m^3/h	500	550	900	1200
Dimensions	WxDxH	mm	842x212x281	842x212x281	1030x233x322	1115x248x336
Net weight		kg	9	9	13	16
Outdoor unit technical data						
Liquid pipe Ø		mm	6.35	6.35	6.35	6.35
Gas pipe Ø		mm	9.52	9.52	12.7	12.7
Standard pipe length without refrigerant charge		m	7	7	7	7
Maximum pipe length		m	15	15	25	25
Maximum IU - OU elevation		m	10	10	15	15
Refrigerant charge in the factory		kg	0.5	0.62	0.9	1.2
Equivalent tons of CO_2		TCO_2EQ	0.34	0.42	0.61	0.81
Additional refrigerant charge beyond standard length		g/m	20	20	20	20
Power Supply		V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G1.5	3G2.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5	4G1.5	4G1.5

DIAGNOSTICS

For diagnostics, see page 146.

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW - 5.0 kW - 7.0 kW



INDOOR UNIT SETTINGS 2.5kW - 3.5kW - 5.0kW - 7.0 kW

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

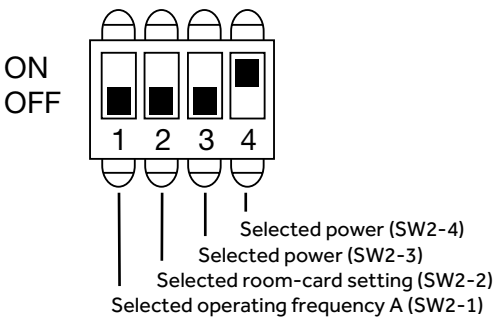
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

	7.0 kW	5.0 kW	3.5 kW	2.5 kW
SW2-3	ON	ON	ON	ON
SW2-4	ON	OFF	ON	OFF

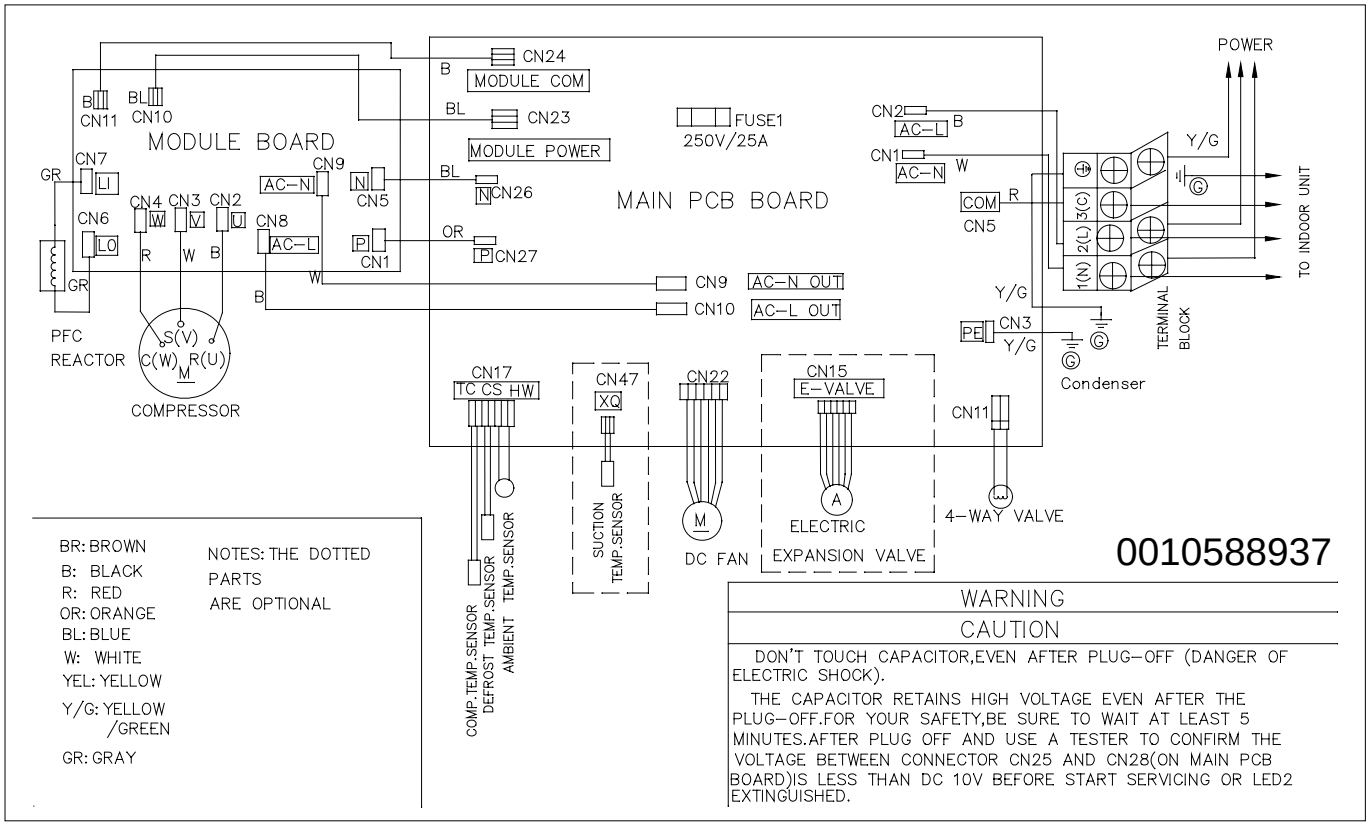
	PRIME GOLD
J1	ON
J2	OFF

SW2 setting example

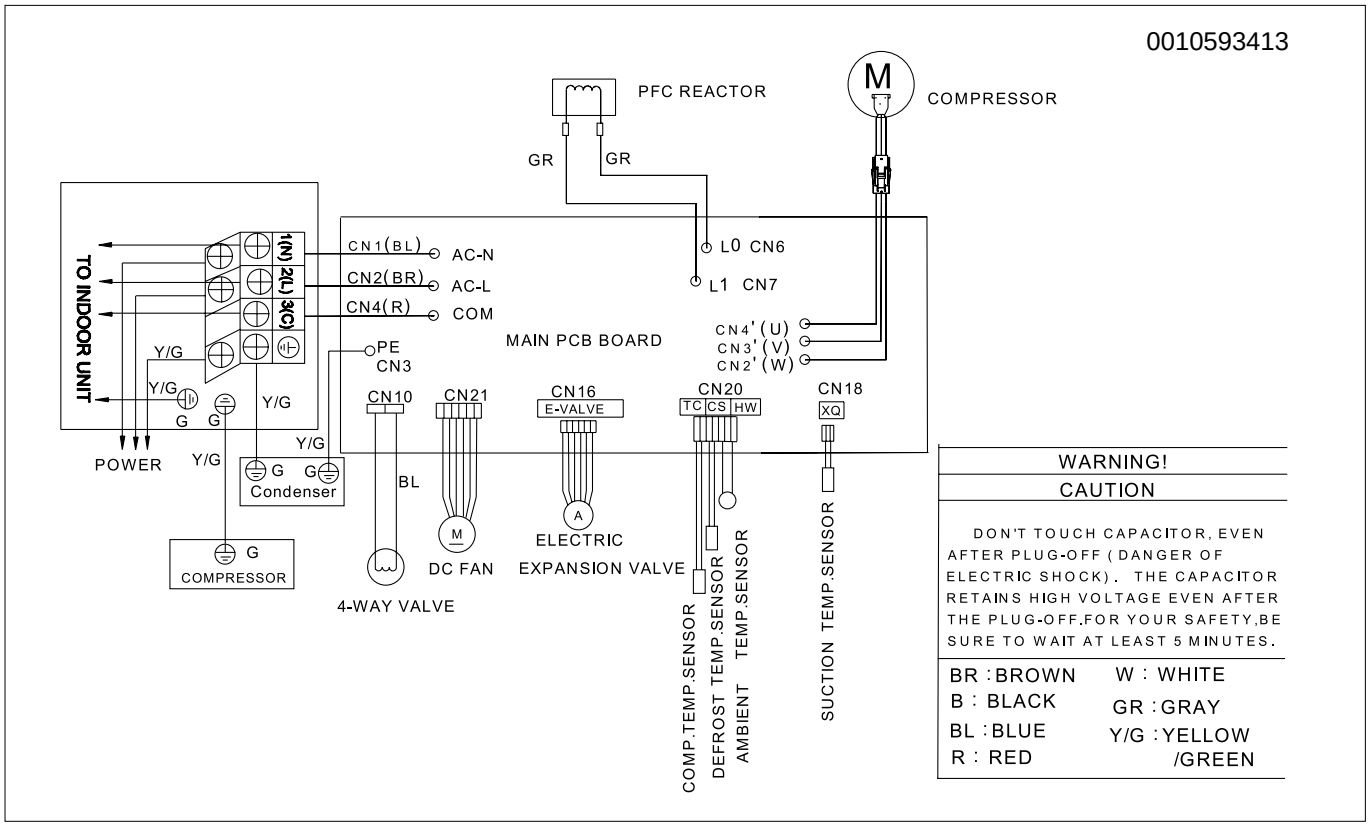


Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

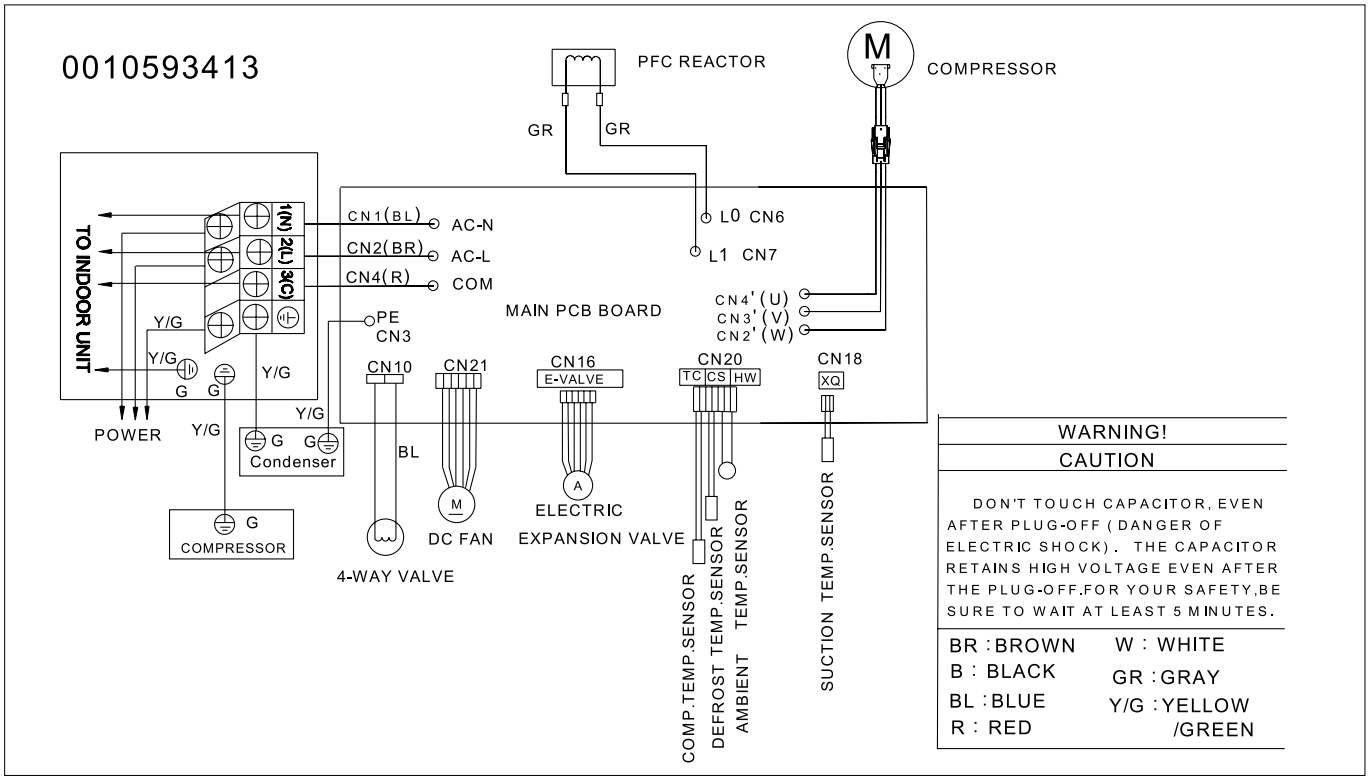
OU CIRCUIT DIAGRAM 2.5 kW



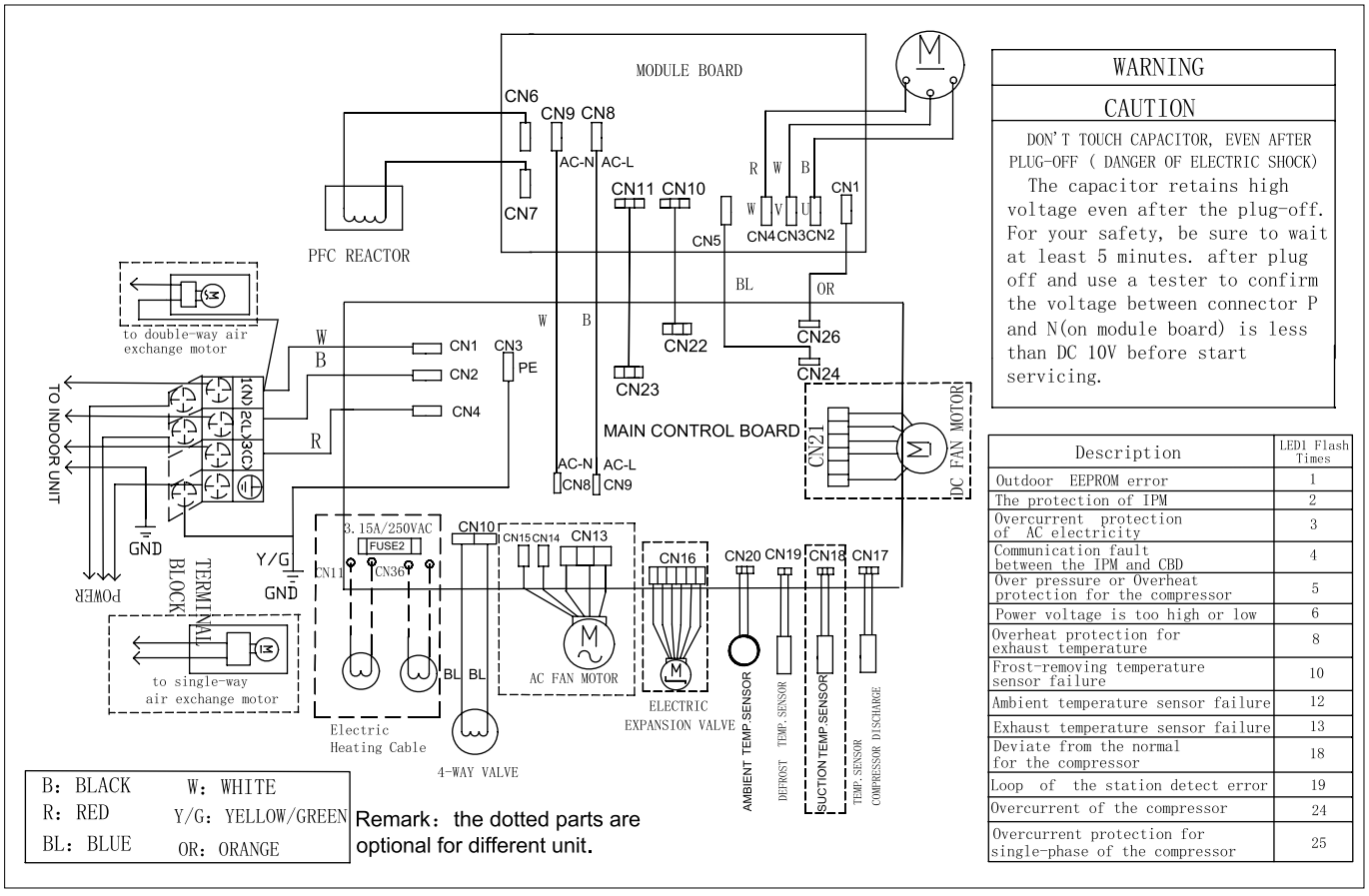
OU CIRCUIT DIAGRAM 3.5 kW



OU CIRCUIT DIAGRAM 5.0 kW

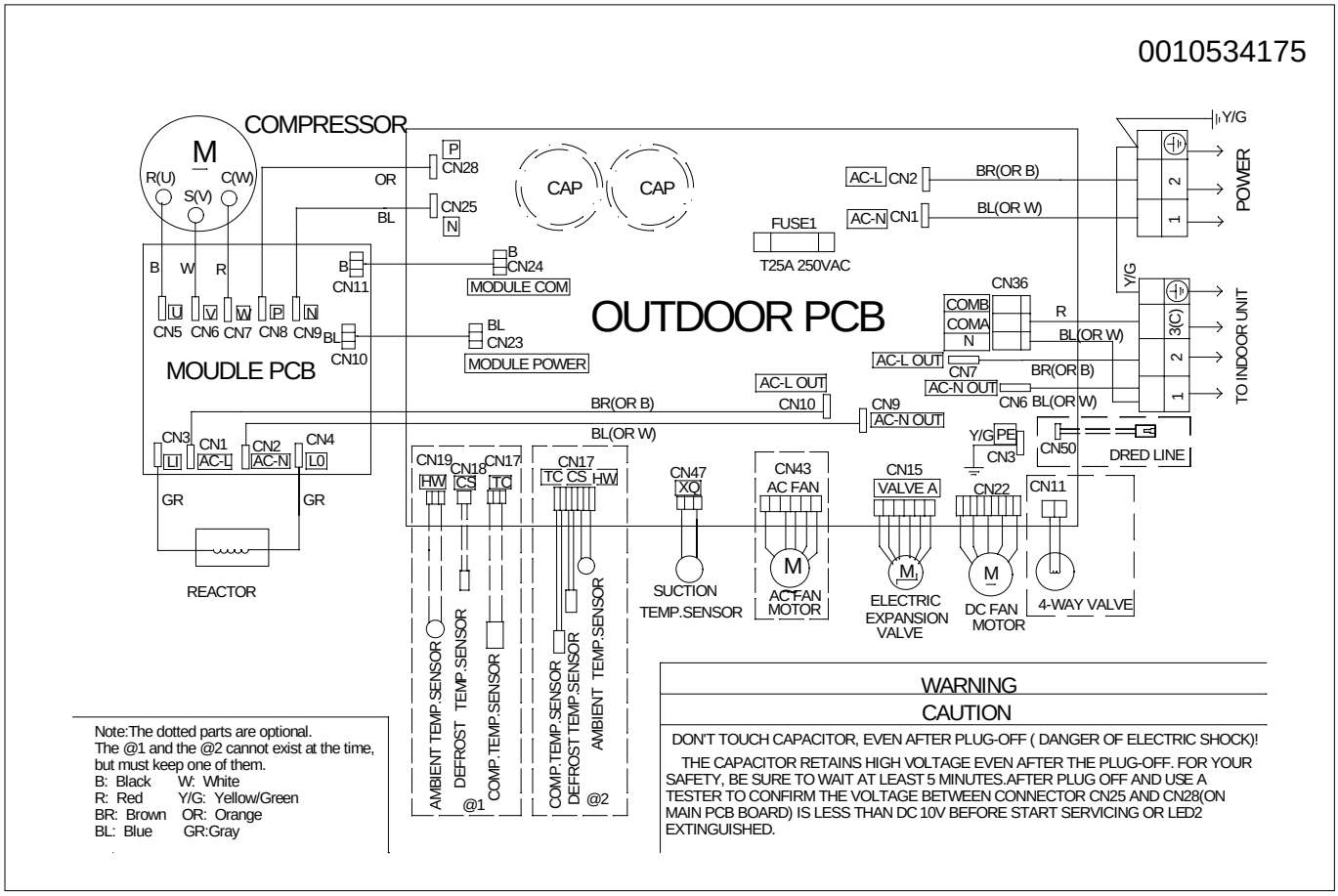


OU CIRCUIT DIAGRAM 7.0 kW



Description	LED1 Flash Times
Outdoor EEPROM error	1
The protection of IPM	2
Overcurrent protection of AC electricity	3
Communication fault between the IPM and CBD	4
Over pressure or Overheat protection for the compressor	5
Power voltage is too high or low	6
Overheat protection for exhaust temperature	8
Frost-removing temperature sensor failure	10
Ambient temperature sensor failure	12
Exhaust temperature sensor failure	13
Deviate from the normal for the compressor	18
Loop of the station detect error	19
Overcurrent of the compressor	24
Overcurrent protection for single-phase of the compressor	25

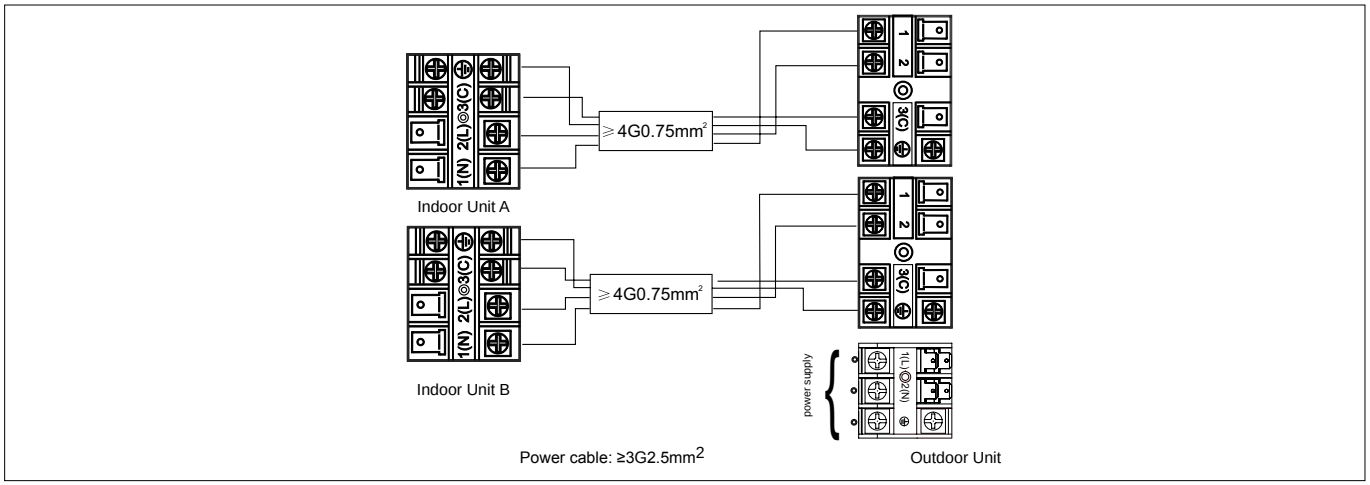
OU CIRCUIT DIAGRAM 7.1 kW



GEM-NM40OUT M-20

GEM-NM50OUT M-20

WIRING DIAGRAM 1:2 GEM-NM40OUT M-20 - GEM-NM50OUT M-20

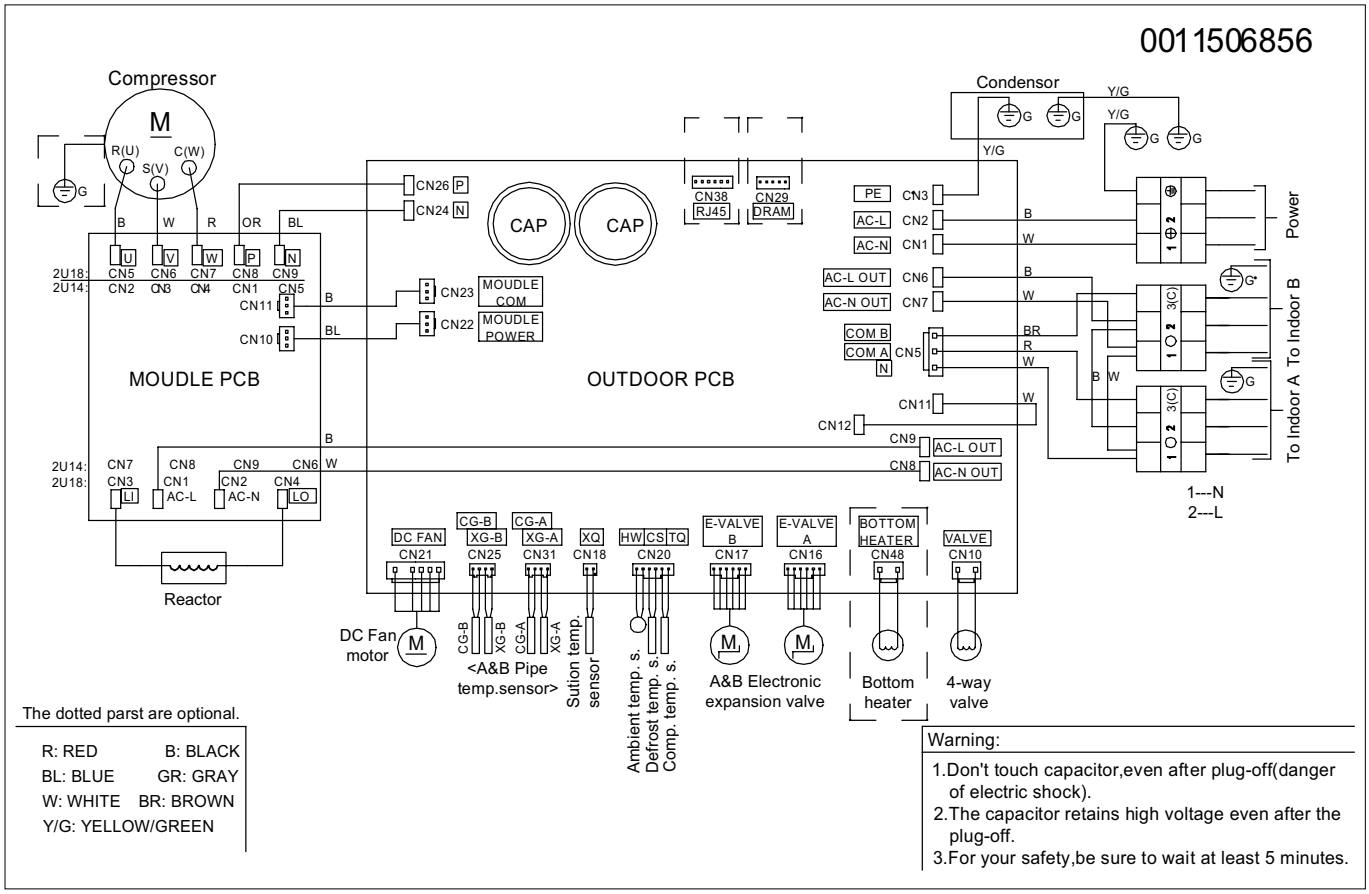


OUTDOOR UNIT	Model		GEM-NM40OUT M-20	GEM-NM50OUT M-20
Outdoor unit technical data				
Liquid pipe Ø		mm	2x6.35	2x6.35
Gas pipe Ø		mm	2x9.52	2x9.52
Standard pipe length without refrigerant charge		m	20	20
Maximum pipe length		m	30	30
Maximum IU - OU elevation		m	15	15
Max IU - IU elevation		m	5	5
Refrigerant charge in the factory		kg	1.0	1.0
Equivalent tons of CO_2		tCO_2EQ	0.68	0.68
Additional refrigerant charge beyond standard length		g/m	20	20
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G2.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5

DIAGNOSTICS

For diagnostics, see page 146.

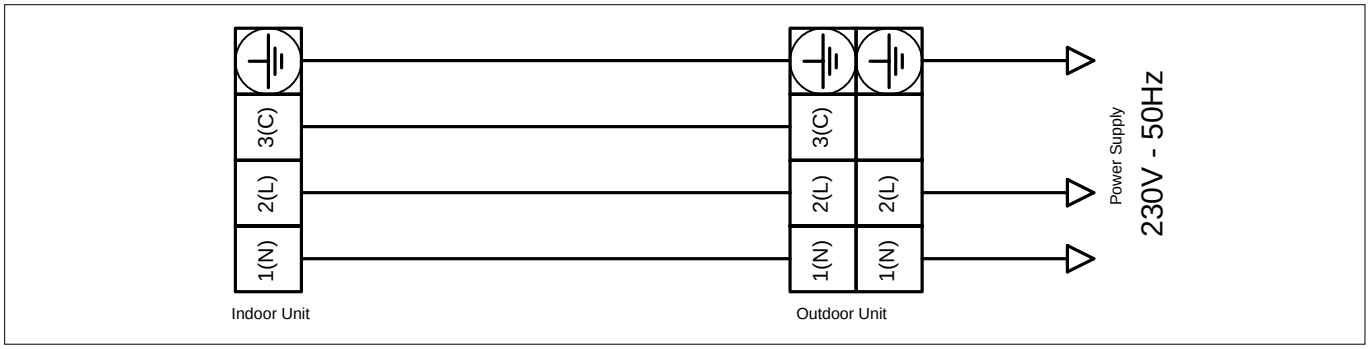
OU CIRCUIT DIAGRAM 1:2 4.0 kW - 5.0 kW



GES-NIG25IN-20 - GES-NIG25OUT-20

GES-NIG35IN-20 - GES-NIG35OUT-20

WIRING DIAGRAM 2.5 kW - 3.5 kW

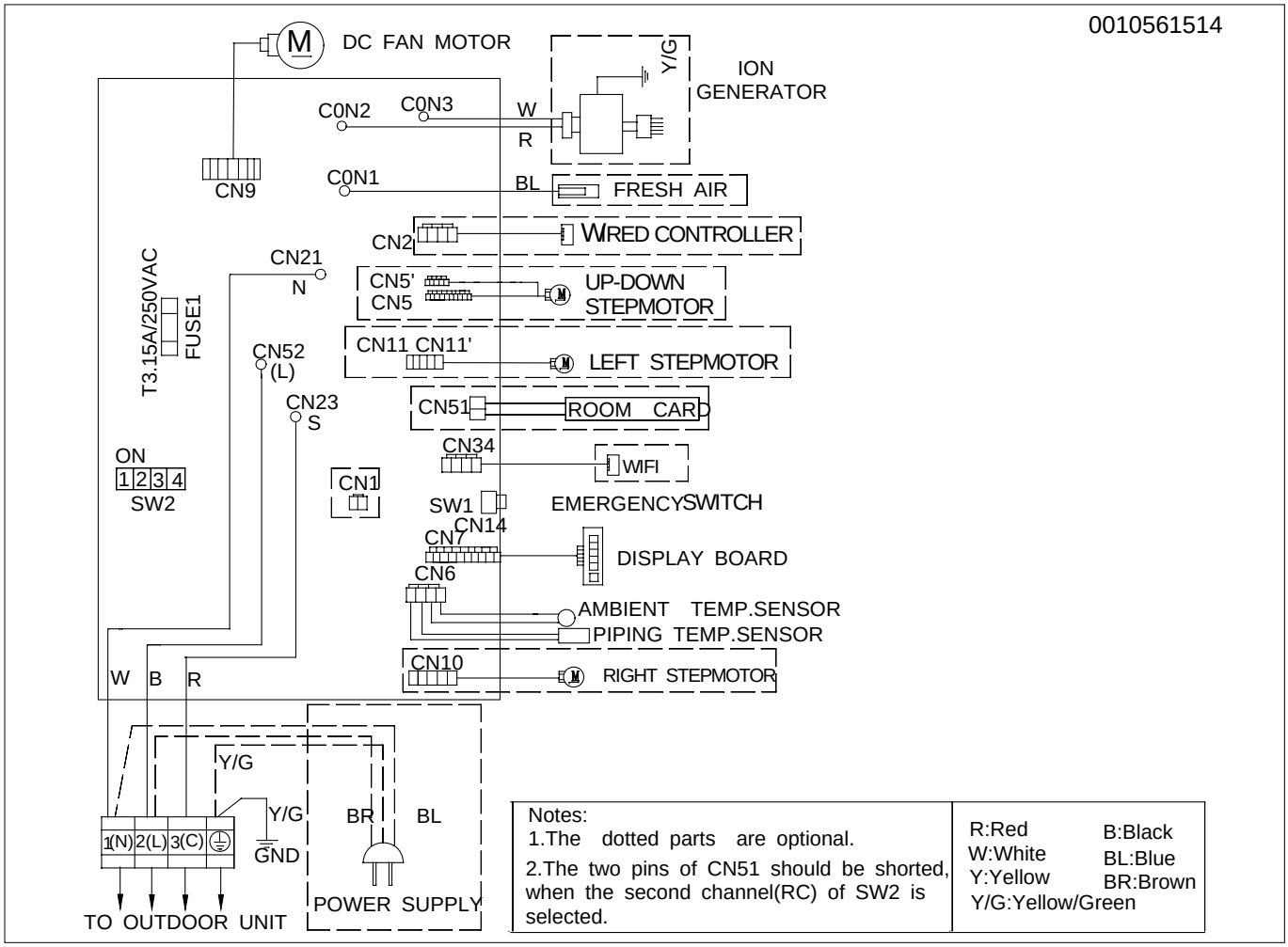


INDOOR UNIT	Model		GES-NIG25IN-20	GES-NIG35IN-20
OUTDOOR UNIT	Model		**GES-NIG25OUT-20**	**GES-NIG35OUT-20**
Indoor unit technical data				
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Treated air volume		m^3/h	500	550
Dimensions	WxDxH	mm	842x212x281	842x212x281
Net weight		kg	9	9
Outdoor unit technical data				
Liquid pipe Ø		mm	6.35	6.35
Gas pipe Ø		mm	9.52	9.52
Standard pipe length without refrigerant charge		m	5	5
Maximum pipe length		m	15	15
Maximum IU - OU elevation		m	10	10
Refrigerant charge in the factory		kg	0.46	0.50
Equivalent tons of CO_2		TCO_2EQ	0.31	0.34
Additional refrigerant charge beyond standard length		g/m	20	20
Power Supply		V-Ph-Hz	230-1-50	230-1-50
Outdoor unit power cable		mm^2	3G1.5	3G1.5
Outdoor unit - indoor unit cable		mm^2	4G1.5	4G1.5

DIAGNOSTICS

For diagnostics, see page 146.

IU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW



INDOOR UNIT SETTINGS 2.5kW - 3.5 kW - 5.0kW - 7.1kW

Selecting the frequency of remote control A or B (SW2-1):

Switch 1 selects the working frequency of the remote control of the indoor wall unit, from "A" to "B".
Set the same frequency on the remote control.

OFF operating frequency "A"
ON operating frequency "B"

Selecting the room-card (indoor unit activation board) (SW2-2):

Using switch 2, you can select the operating mode of the room-card (CN51), which is a clean contact where components (e.g. window contact) can be applied, so as to be able to manage the switching on and/or off of the indoor units in the system:

OFF With open contact the unit stops and with closed contact the unit starts (even if it was previously turned off) in the last mode used. With outdoor contact closed, the local controller can turn the unit on/off.

ON With open contact the unit stops, and with closed contact the unit is ready to start (it is turned on by remote control). With outdoor contact open, the controller cannot control the unit.

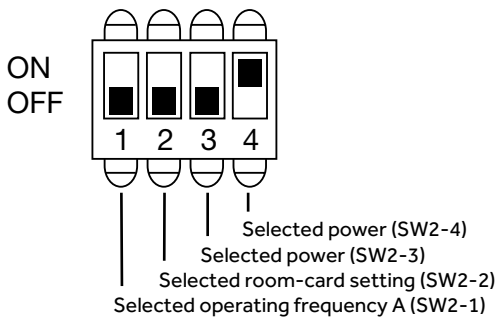
Selecting the indoor unit capacity (SW2-3) and (SW2-4):

Using switches 3 and 4 you can select the capacity of the indoor unit:

	3.5 kW	2.5 kW
SW2-3	ON	ON
SW2-4	ON	OFF

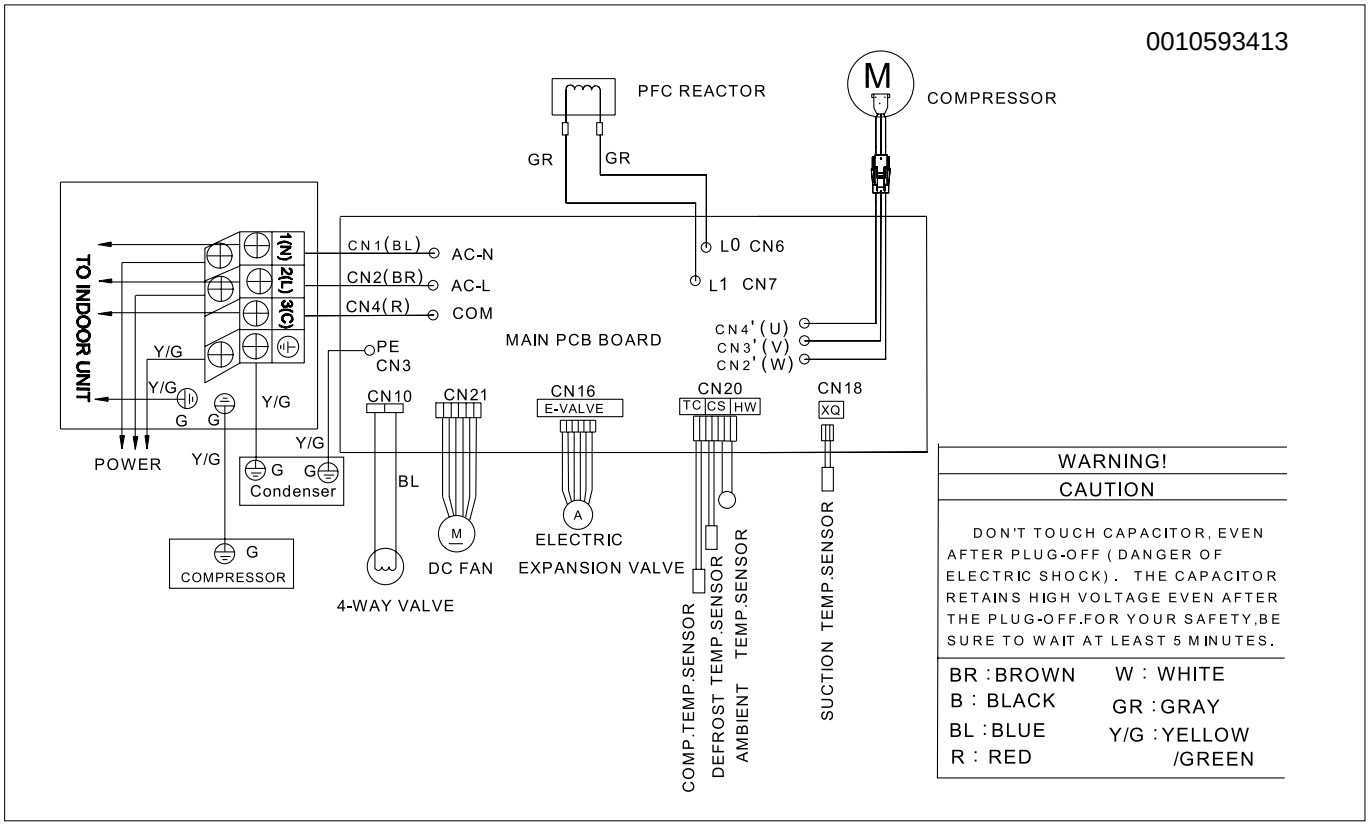
	ENERGY+
J1	OFF
J2	OFF

SW2 setting example



Selecting the room temperature/set-point on the display: To switch the display between real temperature and ambient set-point, press the LIGHT key of the remote control 10 times. The indoor unit will respond with: 2 BEEP sounds to display room temperature, 4 BEEP sounds to display set-point temperature.

OU CIRCUIT DIAGRAM 2.5 kW - 3.5 kW



DIAGNOSTICS

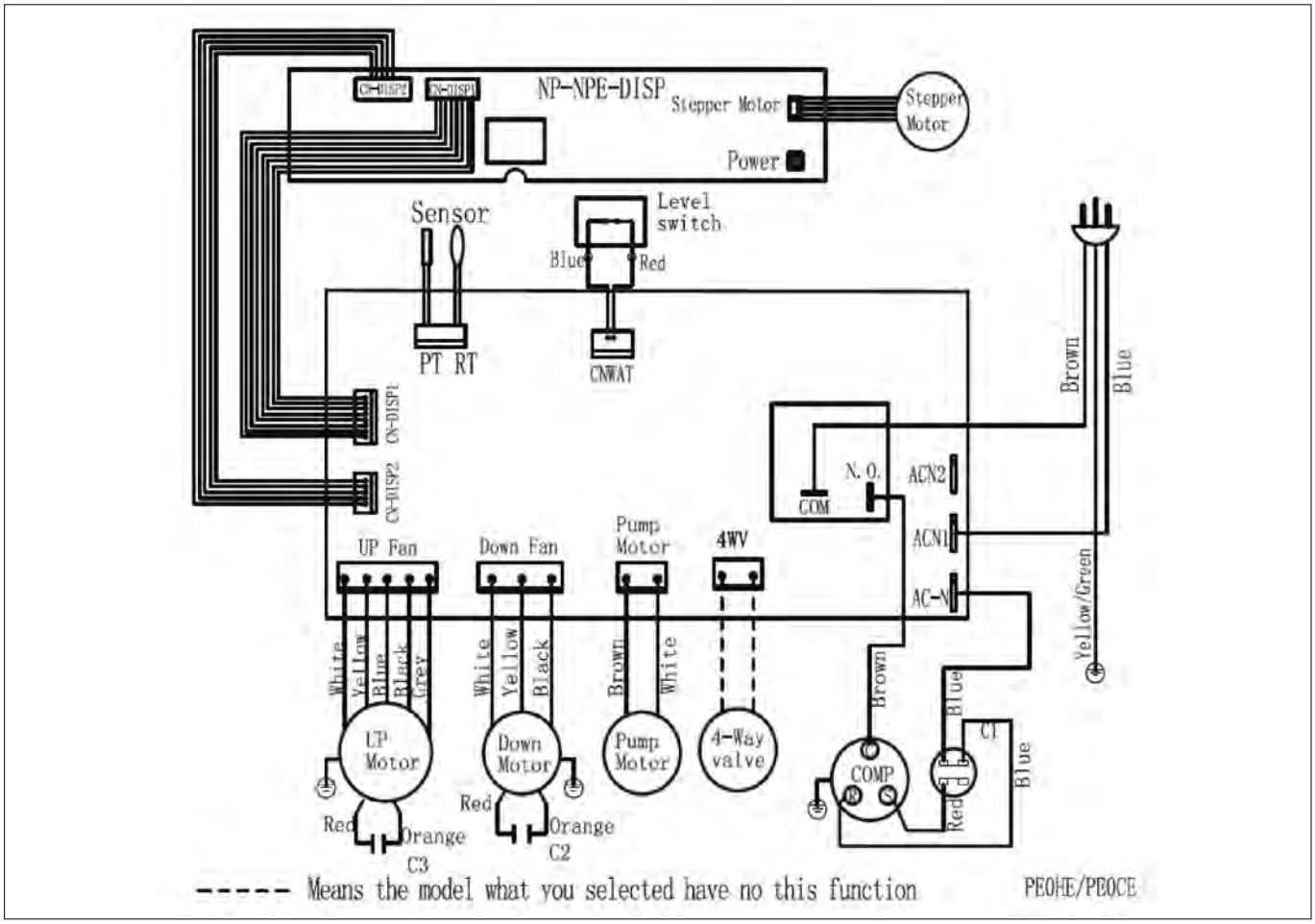
FUTURE PRIME+	ENERGY			Type of failure	Description / Cause	Error code on outdoor unit (flashing LED or display)	Failure on indoor/ outdoor unit
	Power	Timer	Run				
E7	S	S	L	Communication error between indoor and outdoor units	Lack of communication for more than 4 consecutive minutes	15	Indoor - outdoor units
E9	L	L	L	Indoor unit overheating	Temperature on the exchanger too high / heat exchanger temperature sensor faulty	21	
E5				Indoor unit ice protection	Indoor unit exchanger temperature too low	22	
E0				Condensed drainage system anomaly	Open floating contact for more than 25 minutes continuously/problem in wiring between board and float		Unit Indoor
E1	L	S	S	Indoor unit ambient temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
E2	L	A	A	Indoor unit exchanger temperature sensor faulty.	Faulty sensor or short-circuit for more than 2 consecutive minutes.		
E3				Power supply voltage anomaly	Voltage missing, voltage out-of-limits or internal board faulty		
E4	L	A	L	EEPROM faulty indoor unit board	EEPROM faulty indoor unit board		
E6				Reverse phase protection /high - low pressure	Reverse phase protection /high - low pressure		
E8				Communication error between wired controller and indoor unit	Lack of communication for more than 4 consecutive minutes		
E14	S	A	L	Indoor unit DC fan motor faulty**	DC motor wiring interrupted, motor failure, electronic board damaged		
F12	S	L	S	EEPROM outdoor unit faulty	EEPROM outdoor unit PCB faulty	1	Unit Outdoor
F1	A	L	L	Power module protection	The alarm goes out 3 times in an hour and locks the machine.	2	
F22	L	L	S	Overcurrent protection / reversed phase sequence	Overcurrent / faulty current control / phase sequence reversed (models ON OFF)	3	
F3	S	L	S	Communication error between main PCB and SPDU/ISPM power module	Communication failure for more than 4 minutes between main PCB and SPDU/ISPM power module	4	
F20				Compressor over current / high pressure	The alarm goes out 3 times in an hour and locks the machine.	5	
F19	S	L	A	Voltage too low / too high	Voltage above 270 V or less than 187 V	6	
F27				Locked compressor	The alarm goes out 3 times in an hour and locks the machine.	7	
F4	S	L	S	Compressor delivery high temperature protection	Delivery temperature above 120°. The alarm goes out 3 times in an hour and locks the machine.	8	
F8	S	L	A	Outdoor unit DC fan motor faulty	The alarm goes out 3 times in an hour and locks the machine.	9	
F21	A	A	L	Outdoor unit defrosting temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	10	
F7	S	L	S	Compressor intake temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	11	
F6	A	L	S	Outdoor unit ambient temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	12	
F25	L	A	S	Compressor delivery temperature sensor faulty	Temperature sensor in short circuit or open circuit within last 60 seconds	13	
F30				INTAKE HIGH TEMPERATURE SENSOR	LACK OF GAS / SENSOR ALTERED / COMPRESSOR FAILURE	14	
F13				Lack of refrigerant / clogging of refrigerant delivery tube	It reports an error and stops if it detects Td-Tci>=25 for 1 minute after the compressor starts in cooling operating mode for 10 min. The alarm goes out after 3 times in an hour and locks the machine.	16	
F14				4-way valve switching failure	4-way valve coil damaged, disconnected or unpowered. Mechanical failure of the 4-way valve.	17	
F11	S	L	S	Compressor overcurrent with decreasing frequency	Inverter circuit failure	18	
F28	S	L	S	Compressor overcurrent at fixed frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	19	
F15				Board/terminal overheating protection	Short circuit / overheating on components	20	
F5				SPDU/ISPM power module temperature protection	SPDU/ISPM module temperature too high. The alarm goes out 3 times in an hour and locks the machine.	23	
F2	S	L	A	Compressor overcurrent with increasing/ decreasing frequency (software threshold)	The alarm goes out 3 times in an hour and locks the machine.	24	
F23	S	L	A	Unbalanced currents on the compressor, protection on one phase.	Unbalanced phases, damaged windings on the compressor, power module	25	
F9				Reset	Reset the faulty system / power module	26	
F24				No charge/faulty current control	Detached compressor cables / faulty current control	27	
				Power module overcurrent protection / outdoor unit gas piping temperature sensor failure	DC voltage too high. Self-resettable when the anomaly / sensor failure disappears	28	
				Power module undervoltage protection	DC voltage too low. Self-resettable when the anomaly disappears	29	

GEP-09CA-19

GEP-12CA-19

PORTABLE	Model		GEP-09CA-19	GEP-12CA-19
	Commercial code		26000713A	26000723A
Performance data				
Output power	COOLING	kW	2.6	3.5
Power Supply		V-Ph-Hz	240-1-50	240-1-50
Absorbed power		kW	1.1	1.31
Absorbed current		A	5.0	6.5
Energy class	EER		2.61 (A)	2.61 (A)
Dehumidification		l/h	1	1.4
Treated air volume		m^3/h	-	360
Sound power	COOLING	dB	63	64
Noise	A/M/B	dB(A)	53/51/48	54/52/49
Dimensions (WxDxH)	WxDxH	mm	443x340x815	443x340x815
Weight		kg	25	28
Refrigerant			R290	R290
Refrigerant charge in the factory		kg	0.235	0.2345
Equivalent tons of CO_2		TCO_2EQ	2.0	2.0

CIRCUIT DIAGRAM



DIAGNOSTICS

"E1"	Piping heat exchanger temperature sensor battery faulty	Check the room temperature tube sensor and its circuits
"E2"	Ambient heat exchanger temperature sensor faulty	Check the room temperature sensor and its circuits
"E4"	Anti-freeze protection	It will reset the features automatically once the frost protection is finished.
Indicator light for water filling	Condensate drain tray full	Remove the water and restart the device.

GED-10YDZ-19 GED-20YDO-19

GED-12YDZ-19

GED-16YDO-19

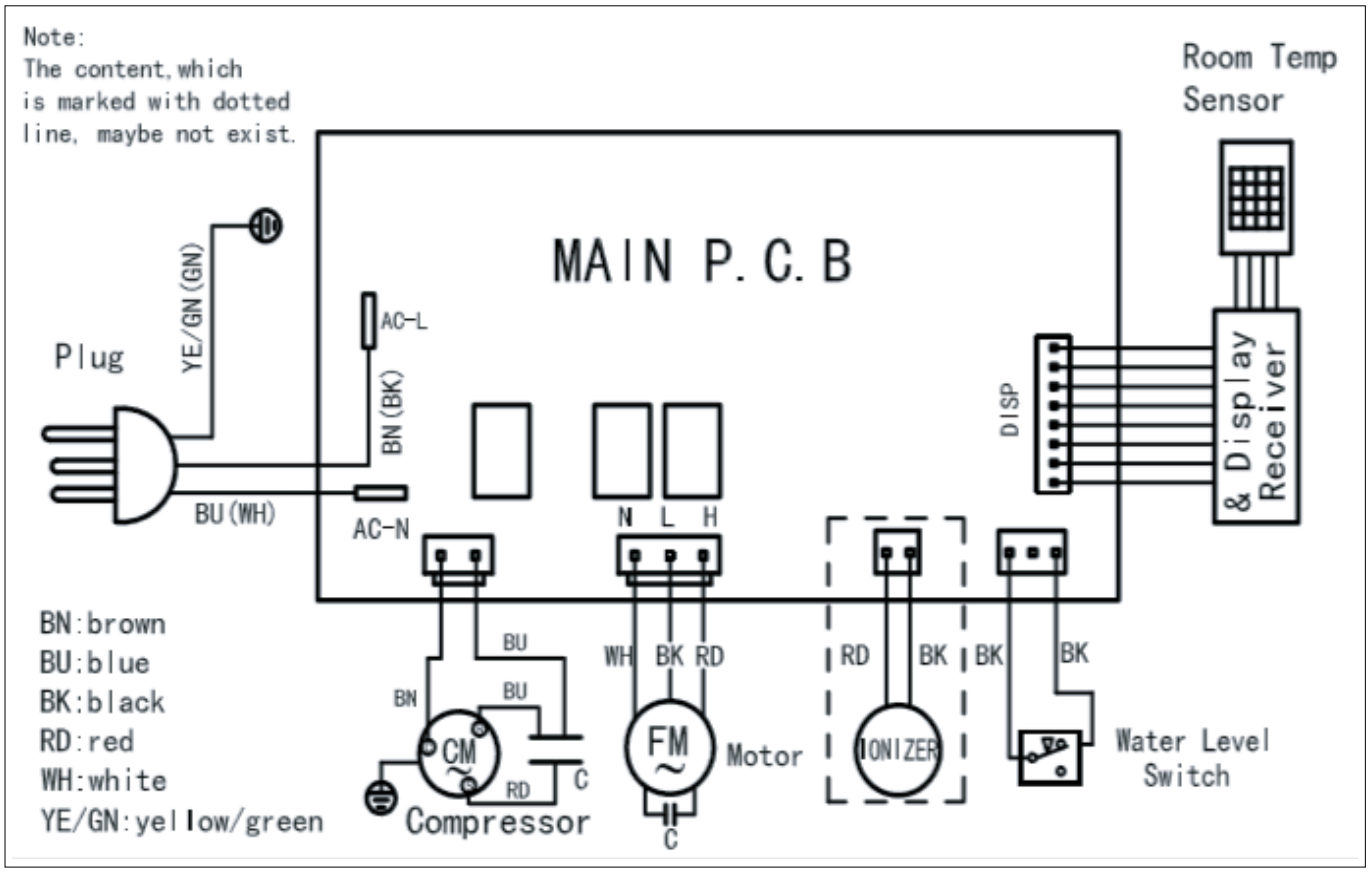
DEHUMIDIFIER	Model	GED-10YDZ-19	GED-12YDZ-19
	Commercial code	26000700A	26000702A
Performance data			
Dehumidification capacity	l/24h	10	12
Absorbed power (nom.)	W	200	200
Absorbed current	A	1.1	1.1
Power Supply	V-Ph-Hz	240-1-50	240-1-50
Tank capacity	L	1.8	1.8
Treated air volume	m³/h	80	80
Area served	m²	10 - 12	12 - 15
Speed number		2	2
Ventilation speed		High / Low	High / Low
Refrigerant		R290	R290
Refrigerant charge in the factory	g	40	55
Charge quantity (40HQ)		1830	1830
Noise	dB(A)	40	40
Dimensions (WxDxH)	mm	296x217x416	296x217x416
Weight	kg	9.8	9.5

DEHUMIDIFIER	Model	GED-16YDO-19	GED-20YDO-19
	Commercial code	26000704A	26000706A
Performance data			
Dehumidification capacity	l/24h	16	20
Absorbed power (nom.)	W	400	390
Absorbed current	A	1.1	1.1
Power Supply	V-Ph-Hz	240-1-50	240-1-50
Tank capacity	L	2.0	2.0
Treated air volume	m³/h	130	150
Area served	m²	20 - 25	25 - 30
Speed number		2	2
Ventilation speed		High / Low	High / Low
Refrigerant		R290	R290
Refrigerant charge in the factory	g	70	75
Charge quantity (40HQ)		1550	1550
Noise	dB(A)	43	43
Dimensions (WxDxH)	mm	292x190x501	292x190x501
Weight	kg	10	10

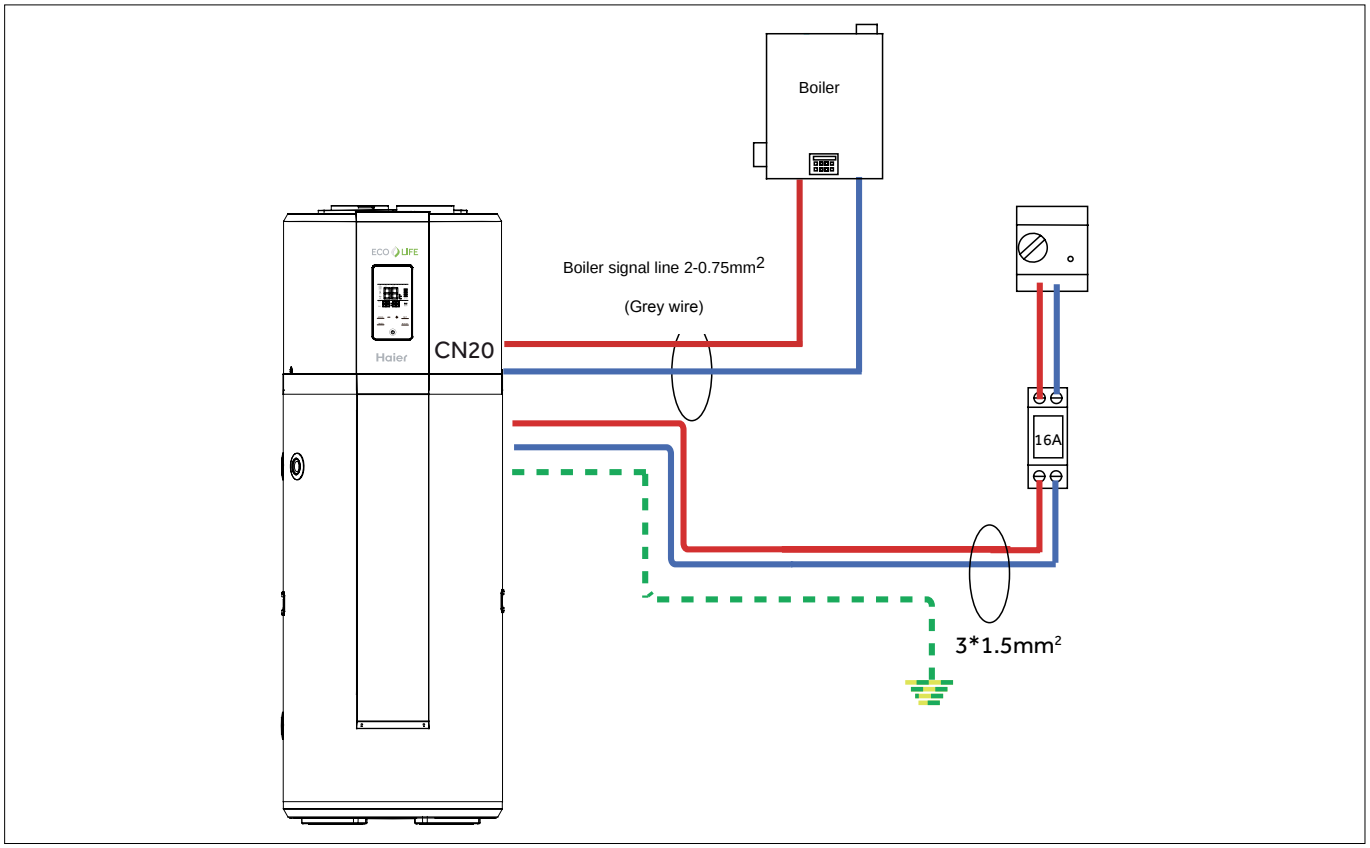
DIAGNOSTICS

Alarm	Description
FL	Full tray alarm
E2:	Ambient temperature sensor failure
L0	The ambient temperature is too low
HI	The ambient temperature is too high
P1	Anti-ice alarm, wait for the exchanger to defrost

CIRCUIT DIAGRAM



Electric connection with support boiler (HP250M3C only)

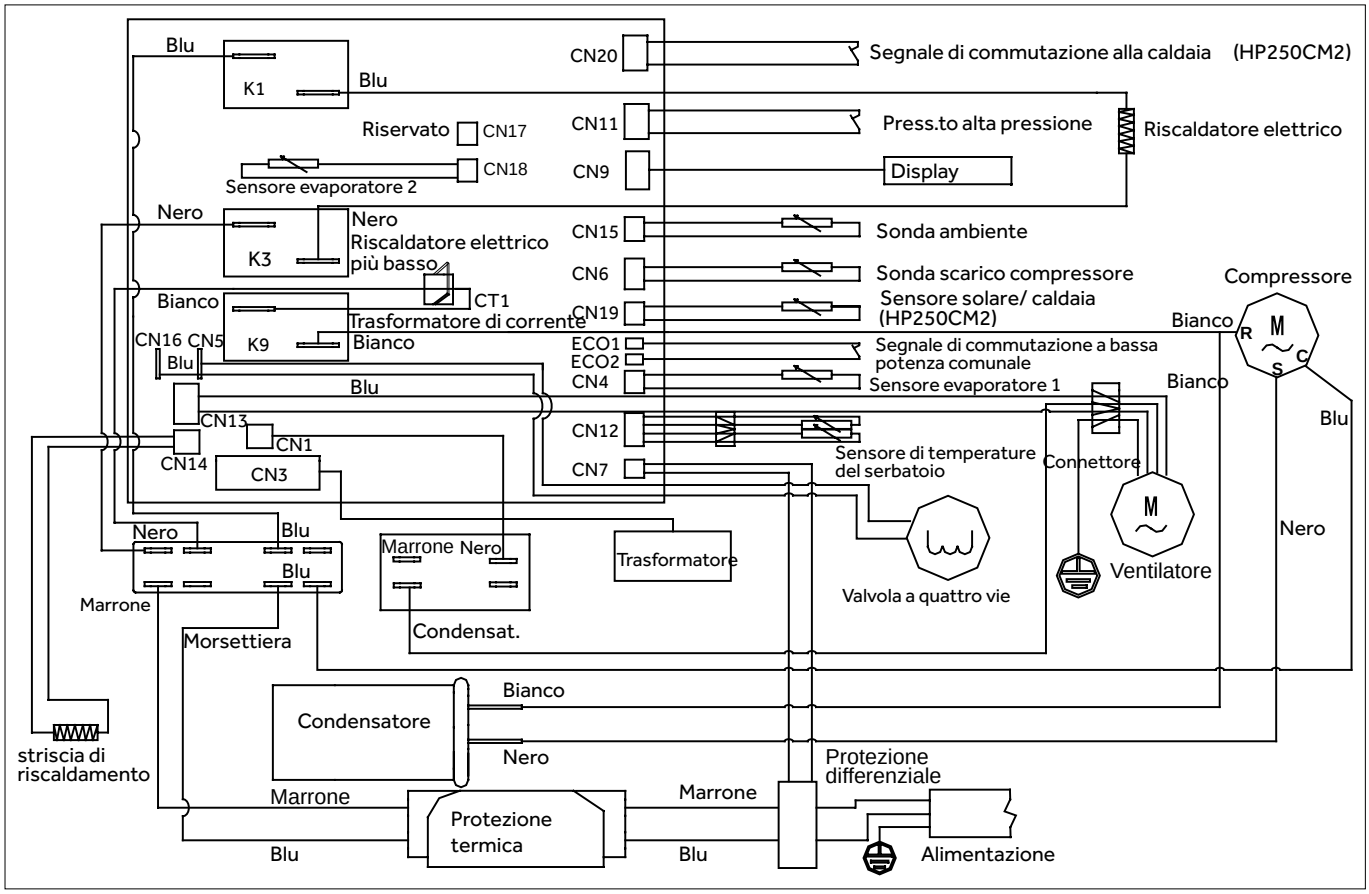


- Connect the boiler connector (support boiler). Consult the boiler's user manual.
- By consulting the water heater installation menu, adjust the parameters AH and 65.

DIAGNOSTICS

Failure and protection	Operating condition	Error code	Solution
Compressor protection	Operating temperature protection	F2	Eliminate the fault and power up again.
	Compressor drain temperature protection	F3	
	Evaporation temperature protection	F5	
Compressor overload protection	Overloaded protection	F6	
Ground failure alarm	The system is automatically switched off in the event of a ground failure	E1	
Overheating alarm	Tank water temperature ≥85°C	E2	
Tank temperature sensor failure	Short-circuited or interrupted sensor	E3	
Ambient temperature sensor failure	Short-circuited or interrupted sensor	E4	
Evaporator_1 temperature sensor failure	Short-circuited or interrupted sensor	E5	
Compressor drain temperature sensor failure	Short-circuited or interrupted sensor	E6	
Evaporator_2 temperature sensor failure	Short-circuited or interrupted sensor	ED	
Communication failure	Communication failure between main control panel and display	E7	
Pressure switch protection	Intervention of the expulsion pressure switch	E8	
Ambient temperature protection	Ambient temperature out of limits (<-7°C or >37°C)	E9	
Power supply switching signal Off-peak error	If the Off-peak signal is not received when switching signals are selected	EF	

Circuit diagram



Symbol Legend

Symbol	Description
	Turn on/off
MODE	Selecting the operating mode
SET	Confirmation button
TIMER	**Adjusting the clock.** Holding the TIMER button pressed lights up the "time" display. To adjust the clock, use the + / - buttons. The settings are automatically stored after 6 seconds without pressing any key. Pressing the TIMER button again returns to the original setting.
BOOST	**Rapid heating.** Holding down the BOOST button will illuminate the corresponding icon and activate the rapid heating mode.
AUTO	**Auto mode.** Before using the heat pump. If the heat pump operates more than the default 8 hours, electrical resistance starts. The default operation time can be adjusted in the installation settings.
ECO	**ECO mode:** Starts the heat pump to provide hot water in energy saving mode 1. The ECO mode allows heating the water and maintaining its temperature within a defined period of time. If the water heating is not finished during this period, heating will continue until the set temperature is reached. 2. After entering ECO mode, set the timer to schedule the energy saving operation. When the SET key is pressed, "LP" appears on the display, "On" flashes and time is displayed. Adjust the time with "+" / "-". Press SET again. "ON" turns off and "OFF" turns on. Adjust the minutes with the "+" / "-" as above. The settings are automatically stored.
VAC	**Vacation Mode** Starts the heat pump to provide hot water according to the user's return date after a vacation. Example of adjustment: You are on vacation from January 1 to January 5. You can set the number of days as (5-1) = 4 and the desired temperature. The pump starts automatically as of 0:00 a.m. on January 5.
	Anti-legionella The anti-legionella function will be activated every 7 days to automatically heat the tank to 65°C.
	Hot water icon: Displays the amount of hot water remaining in the tank.

- For installation settings, press ⏻ to shut down the system, then press + and SET simultaneously for 10 seconds.
- When the relevant menu appears, press + or − to change the settings value.
- Press SET to confirm the settings.
- Press ⏻ to close the menu.

Parameters	Description	Factory Settings	Adjustment Range
LL nO,nC	**ECO signal input for exceeding power.** When using this signal, first inquire about how the external logic functions. This must be done only by professionally qualified personnel. - NO corresponds to Normally Open Signal. - NC corresponds to Normally Closed Signal.	NO	NO, NC
LP 01, 02	**ECO input logic type** - There are two ways to use the heat pump, set in the installation settings - 01 manual setting mode ECO (ECO1); - 02 signal switching by the power company (ECO2).	01	01, 02
AL On, OF	**Anti Legionella** - This parameter is used to enable Legionella protection mode. - Once every 7 days, all the hot water in the tank is heated to 65°C.	ON	ON, OFF
AH 1, 2, 3	**Heating auxiliary circuit** - 1 corresponds to electrical device. - 2 corresponds to electrical device and boiler. - 3 corresponds to electrical and solar device.	1	1, 2, 3
CS nO,nC	**Boiler output signal type** - NO corresponds to normally open contact. - NC corresponds to normally closed contact.	NO	NO, NC
FS 1, 2, 3	**Fan speed** - 1 corresponds to the water heater without ducts. - 2 corresponds to semi-ducting with only one duct installed. - 3 corresponds to ducts on both air inlet and outlet openings.	1	1, 2, 3
AA 5-10	**Heat pump operation time** - If the heat pump operates for more than the Set Time, the heating is switched on via electrical resistances.	8h	5-10h

HEAT PUMP WATER HEATER (R134A)

HP200S1 (outdoor unit) TS200HE-S1 (tank)

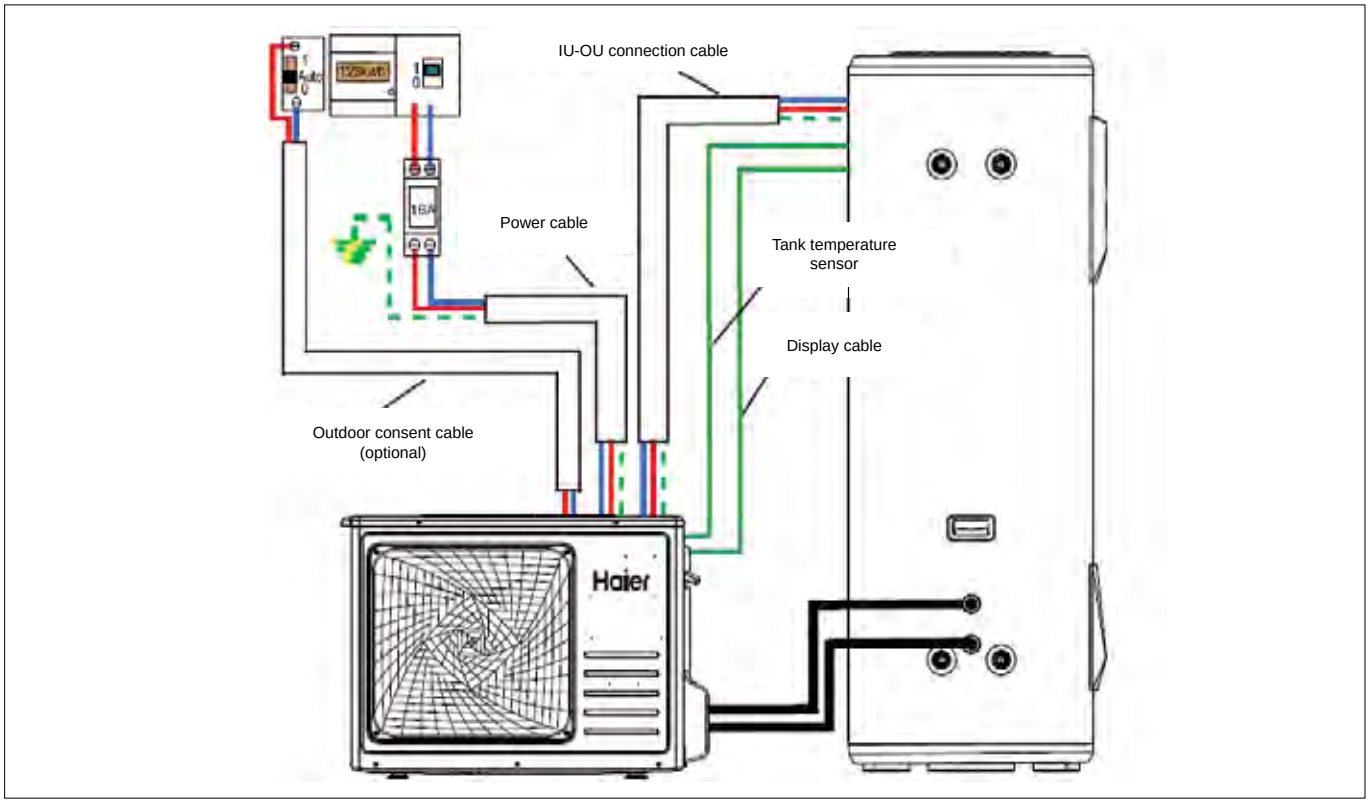
HP300S1 (outdoor unit) TS300HE-S1 (tank)

System model		HP200S1	HP300S1
Tank model		**TS200HE-S1**	**TS300HE-S1**
Tank			
Tank volume	L	195	293
Power Supply	V-Ph-Hz	220-240V/50Hz	220-240V/50Hz
Tank pressure	Bar	7	7
Extra coil / exchange surface		No	No
Anti-corrosion		Magnesium anode	Magnesium anode
IP protection class		IPX4	IPX4
Performance			
Auxiliary electrical resistance power	W	2150	2150
Average power absorbed (heat pump only)	W	665	850
Maximum power absorbed (heat pump only)	W	1000	1350
Maximum power absorbed (with electrical resistance)	W	3150	3500
Default water temperature	°C	55	55
Water temperature range with resistance	°C	35-75	35-75
Water temperature range heat pump only	°C	35-65	35-65
Refrigerant / quantity	kg	R134a / 1.3	R134a / 1.5
Equivalent tons of CO_2	tCO_2EQ	1.85	2.14
Sound power	dB(A)	64	64
Operating temperature - heat pump only	°C	-7-45	-7-45
Operating temperature - system	°C	-7-45	-7-45
Performance			
Extraction type		External	External
COP@7 °C (EN16147)		3.09	3.20
COP@15 °C (EN16147)		3.54	3.80
Heating time (@7°C)	h	4h03	4h45
Heating time (@15°C)	h	3h32	3h49
Tapping cycle (EN16147)		L	XL
Power absorbed in standby / Pes (@7°C)	W	28	29
Maximum volume of usable hot water (EN16147)	L	245.1	382.6
Dimensions and connections			
Water output	"	G3/4"F	G3/4"F
Water inlet / Condensate drain	"	G3/4"F	G3/4"F
Safety valve	"	G3/4"F	G3/4"F
Maximum length of the air intake and outlet duct	m	2.5 + 2.5	2.5 + 2.5
Air intake and outlet duct diameters	mm	180	180
Water heater dimensions (WxDxH)	mm	544x6512x1765	632x300x1795
Packing size without pallet (WxDxH)	mm	676x636x1927	737x696x1958
Gross weight	kg	89	112
Net weight	kg	77	98
OU Dimensions (WxDxH)	mm	899x352x681	899x352x681
OU packaging dimensions without pallet (LxPxH)	mm	960x425x735	960x425x735

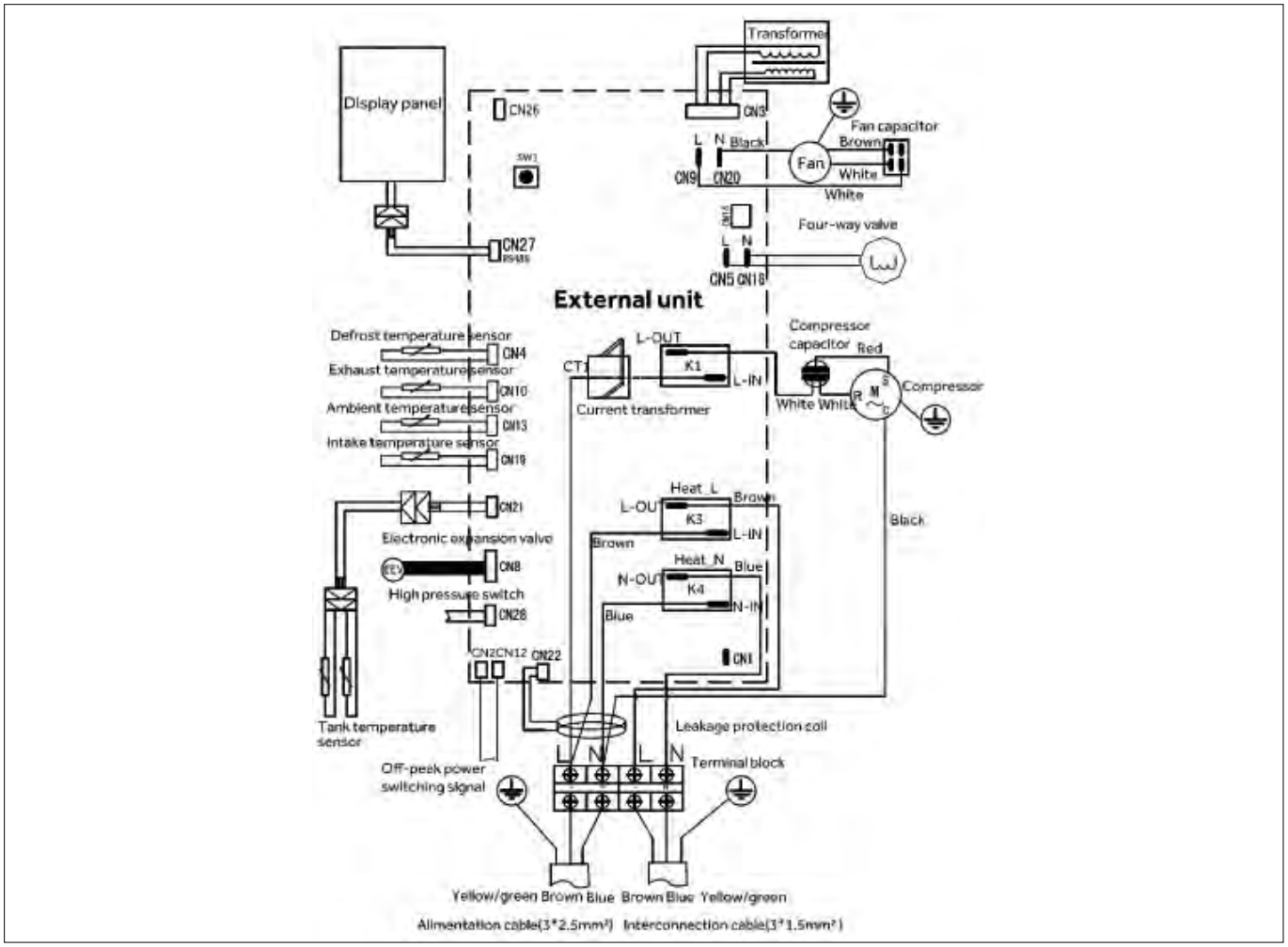
DIAGNOSTICS

Failure and protection	Operating condition	Error Code	Solution
Compressor protection	Operating temperature protection	F2	Eliminate the fault and power up again.
	Compressor drain temperature protection	F3	
	Evaporation temperature protection	F5	
Compressor overload protection	Overloaded protection	F6	
Ground failure alarm	The system is automatically switched off in the event of a ground failure	E1	
Overheating alarm	Tank water temperature ≥85°C	E2	
Tank temperature sensor failure	Short-circuited or interrupted sensor	E3	
Ambient temperature sensor failure	Short-circuited or interrupted sensor	E4	
Evaporator_1 temperature sensor failure	Short-circuited or interrupted sensor	E5	
Compressor drain temperature sensor failure	Short-circuited or interrupted sensor	E6	
Evaporator_2 temperature sensor failure	Short-circuited or interrupted sensor	ED	
Communication failure	Communication failure between main control panel and display	E7	
Pressure switch protection	Intervention of the expulsion pressure switch	E8	
Ambient temperature protection	Ambient temperature out of limits (<-7°C or >37°C)	E9	
Power supply switching signal Off-peak error	If the Off-peak signal is not received when switching signals are selected	EF	

IU-OU WIRING DIAGRAM



OU CIRCUIT DIAGRAM



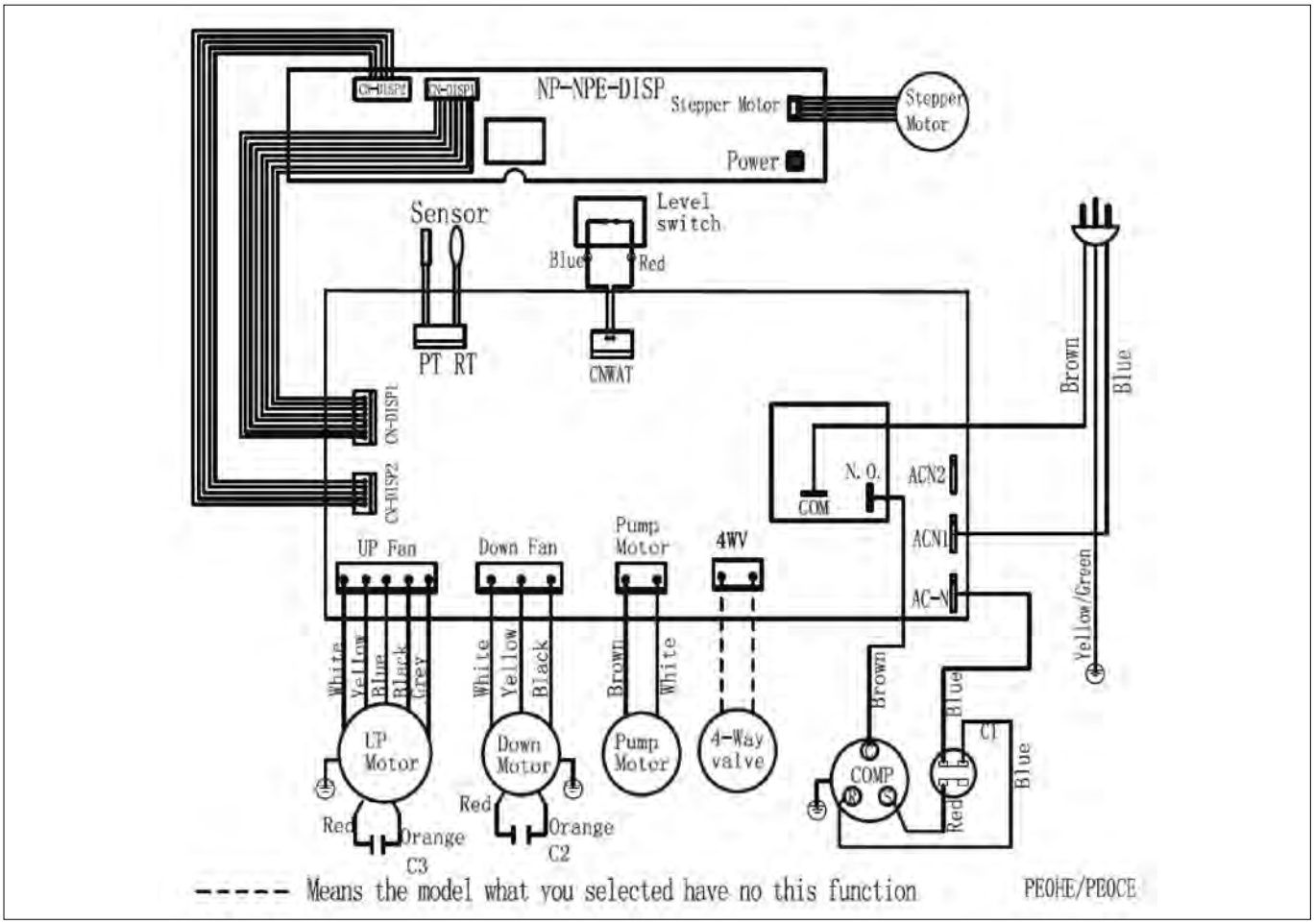
NOTE: If the display of the indoor unit does not light up, verify that the CN21 E CN27 connectors on the outdoor unit board are not reversed

AM09AA1TAA

AM12AA1TAA

PORTABLE	Model		AM09AA1TAA	AM12AA1TAA
	Commercial code		25000712A	25000722A
Performance data				
Output power	COOLING	Btu/h	9000	12000
		kW	2.6	3.5
Power Supply		Ph/V/Hz	1/220~240/50	1/220~240/50
Absorbed power	COOLING	kW	1.0	1.35
Absorbed current	COOLING	A	4.8	6.4
Energy class	EER		2.61 (A)	2.61 (A)
Dehumidification		L/h	1	1.4
Treated air volume		m³/h	350	350
Noise		dB(A)	65	65
Dimensions (WxDxH)	WxDxH	mm	443x340x815	443x340x815
Weight		kg	25	28
Refrigerant charge in the factory		kg	0.235	0.245
Equivalent tons of CO_2		tCO_2EQ		

CIRCUIT DIAGRAM



DIAGNOSTICS

"E1"	Piping heat exchanger temperature sensor battery faulty	Check the room temperature tube sensor and its circuits
"E2"	Ambient heat exchanger temperature sensor faulty	Check the room temperature sensor and its circuits
"E4"	Anti-freeze protection	It will reset the features automatically once the frost protection is finished.
Indicator light for water filling	Condensate drain tray full	Remove the water and restart the device.

AG10AA1TAA AG20AB2TAA

AG12AA1TAA

AG16AB2TAA

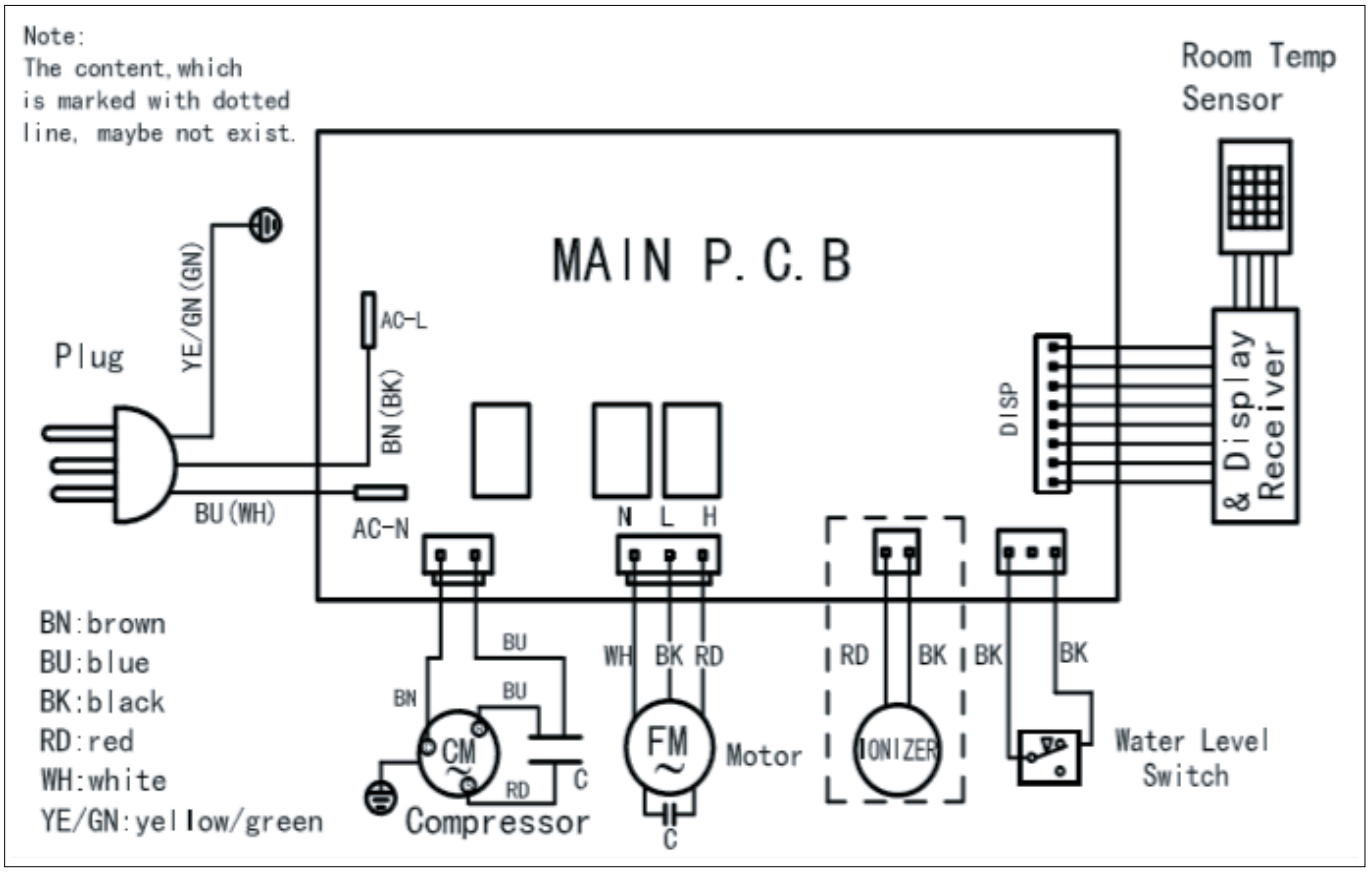
DEHUMIDIFIER	Model	AG10AA1TAA	AG12AA1TAA
	Commercial code	25000701A	25000703A
Performance data			
Dehumidification capacity	L/24H	10	12
Power Supply	Ph/V/Hz	1/220~240/50	1/220~240/50
Absorbed power	kW	0.24	0.24
Absorbed current	A	1.1	1.1
Treated air volume	m³/h	80	80
Maximum noise	dB(A)	42	42
For ambient up to	m²	10 - 12	12 - 15
Water tray capacity	L	1.8	1.8
Dimensions (W x D x H)	mm	296x217x416	296x217x416
Weight	kg	9.5	9.5
Refrigerant charge in the factory	kg	0.40	0.55

DEHUMIDIFIER	Model	AG16AB2TAA	AG20AB2TAA
	Commercial code	25000705A	25000707A
Performance data			
Dehumidification capacity	L/24H	16	20
Power Supply	Ph/V/Hz	1/220~240/50	1/220~240/50
Absorbed power	kW	0.25	0.40
Absorbed current	A	1.1	1.7
Treated air volume	m³/h	130	150
Maximum noise	dB(A)	44	45
For ambient up to	m²	20 - 25	25 - 30
Water tray capacity	L	2.0	2.0
Dimensions (W x D x H)	mm	292x190x501	292x190x501
Weight	kg	10	12
Refrigerant charge in the factory	kg	0.70	0.75

DIAGNOSTICS

Alarm	Description
FL	Full tray alarm
E2:	Ambient temperature sensor failure
L0	The ambient temperature is too low
HI	The ambient temperature is too high
P1	Anti-ice alarm, wait for the exchanger to defrost

CIRCUIT DIAGRAM

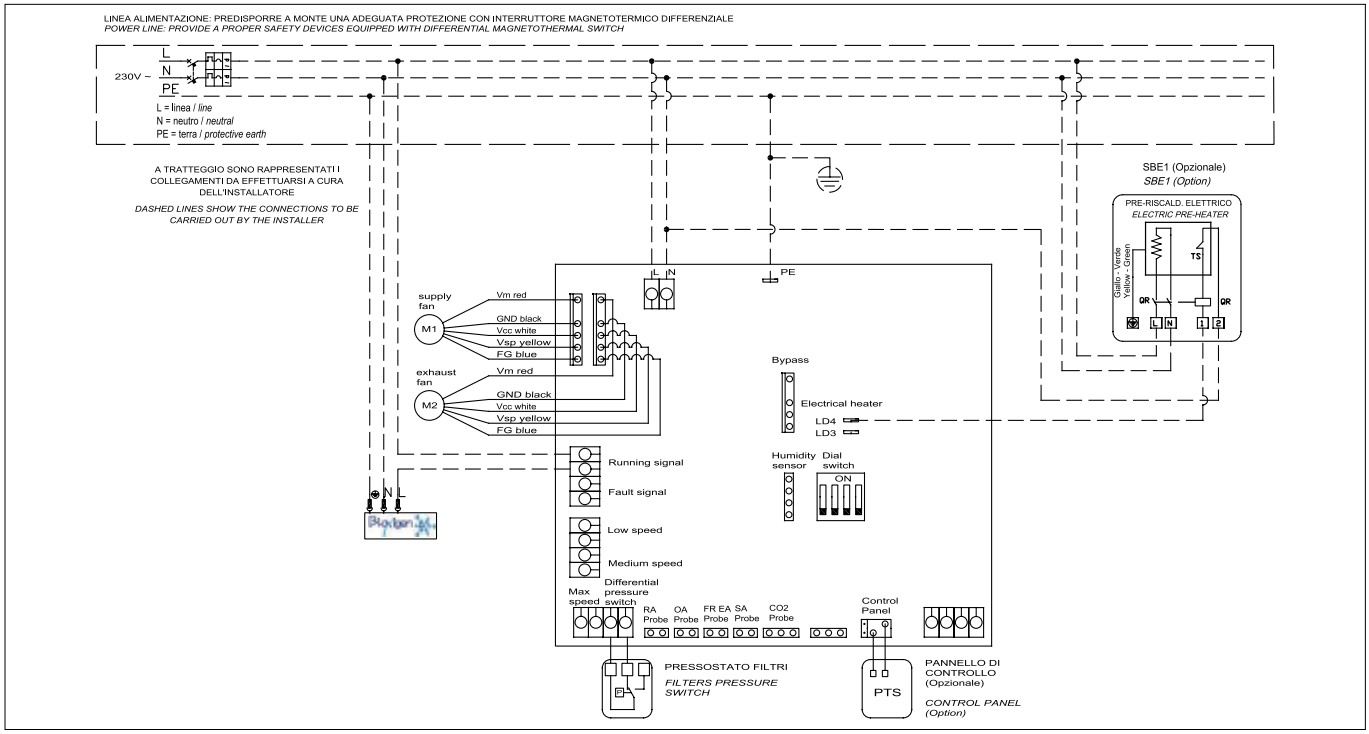


ERV HEAT RECOVERY UNIT

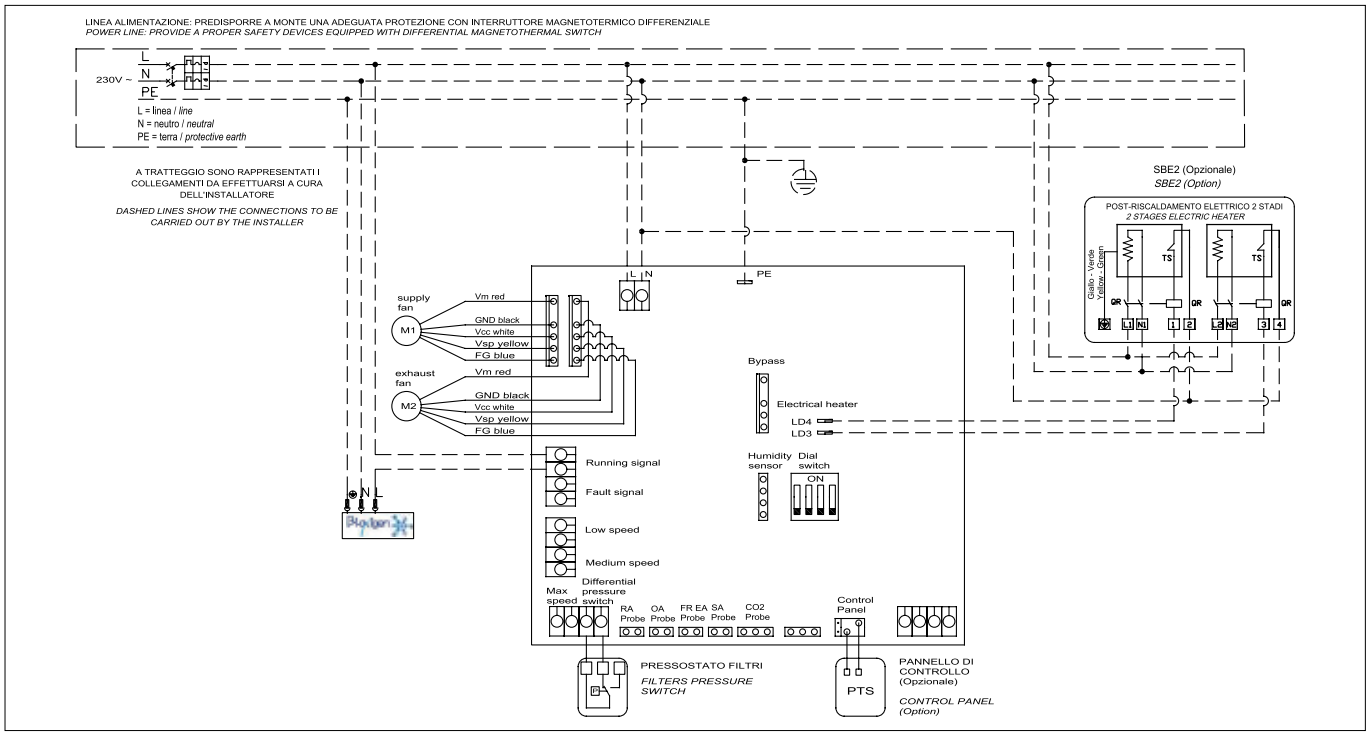
HACI-RP25 HACI-RP50 HACI-RP80 HACI-RP130

HACI-RP35 HACI-RP65 HACI-RP100

CIRCUIT DIAGRAM



CIRCUIT DIAGRAM



DIAGNOSTICS

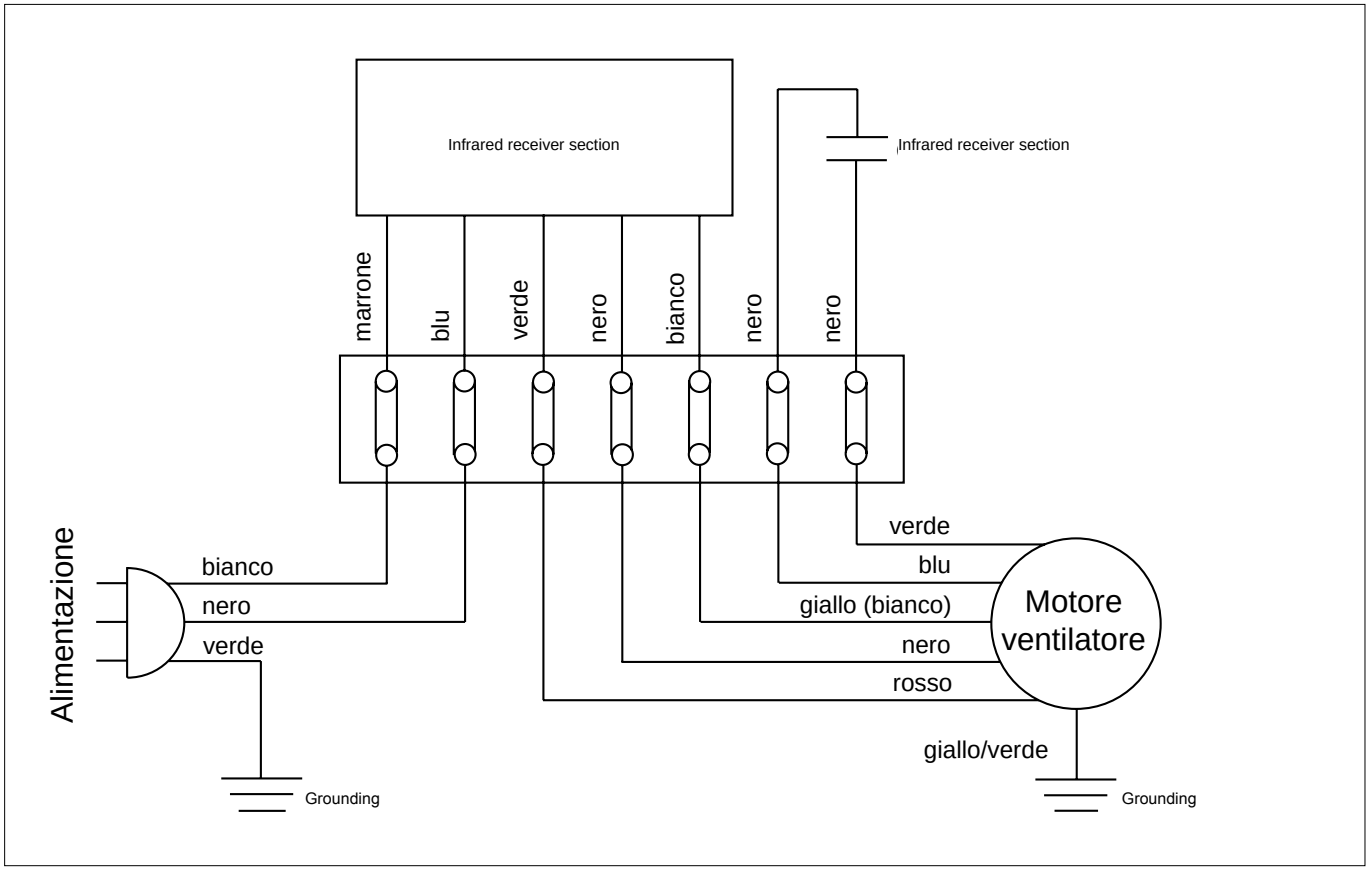
Error code	
E1	Outdoor air temperature sensor error
E2	EEPROM failure
E3	Return air temperature sensor error
E4	Exhaust air temperature sensor error
E5	Communication error
E6	Supply air temperature sensor error
E7	Fan motor detection error
E8	Fan motor failure

HACI BDA 900

HACI BDA 1200

HACI BDA 1500

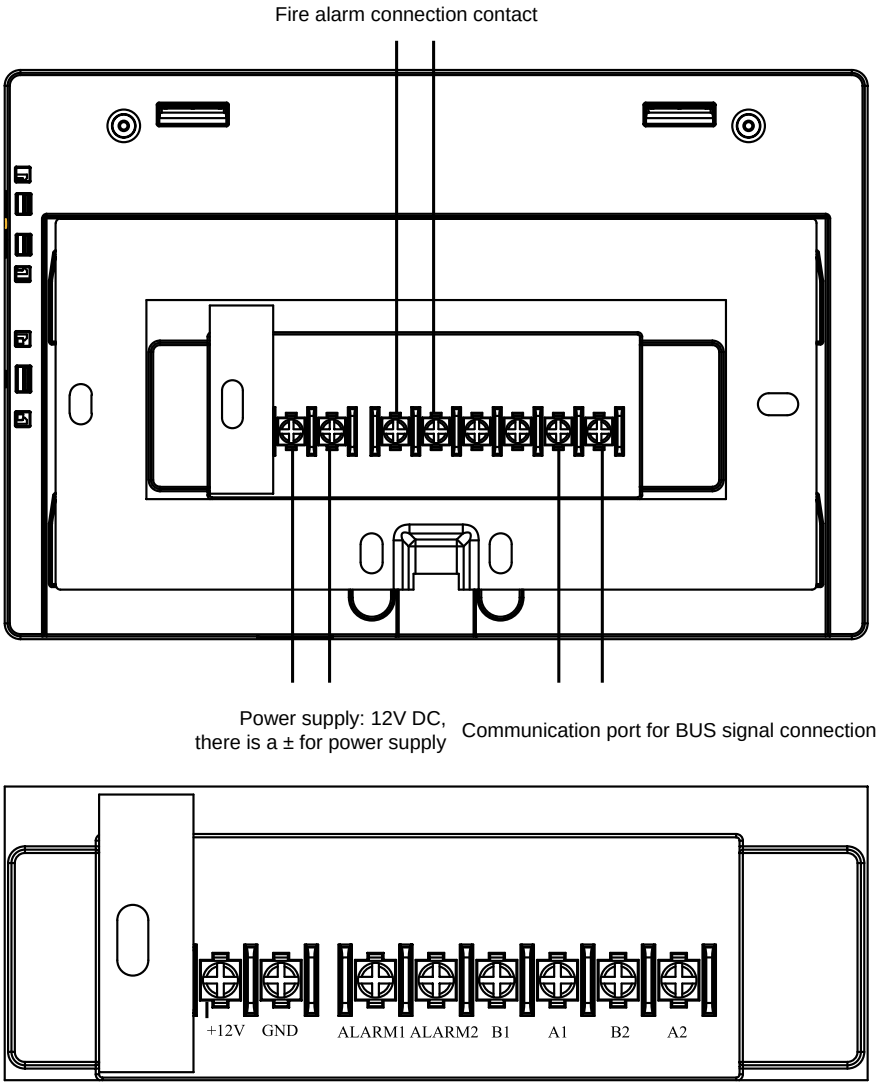
CIRCUIT DIAGRAM



Model	Ø Fan (mm)	Dimensions (mm)			Voltage (V)	Frequency (Hz)	Net weight (kg)
		Width	Depth	Height			
HACI BDA 900	125	900	205	215	220-240	50/60	15
HACI BDA 1200	125	1200	205	215	220-240	50/60	19.5
HACI BDA 1500	125	1500	205	215	220-240	50/60	23

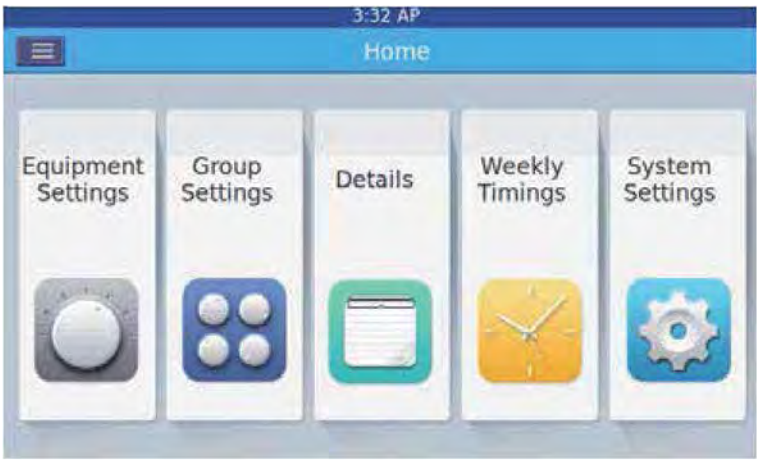
Model	Commercial code	Treated air volume (m^3/h)		Air flow velocity (m/s)		Airflow velocity at 3 meters (m/s)		Absorbed Power (W)		Noise dB(A)	
		High	Low	High	Low	High	Low	High	Low	High	Low
HACI BDA 900	25001009Y	1310	1160	12.7	11	3.3	2.9	120	95	52	50
HACI BDA 1200	25001012Y	1850	1645	12.7	10.6	3.3	2.8	180	135	58	55
HACI BDA 1500	25001015Y	2581	2160	12.5	10.5	3.2	2.8	230	170	58	56

INFORMATION ON THE PARTS OF THE CENTRALISED CONTROLLER



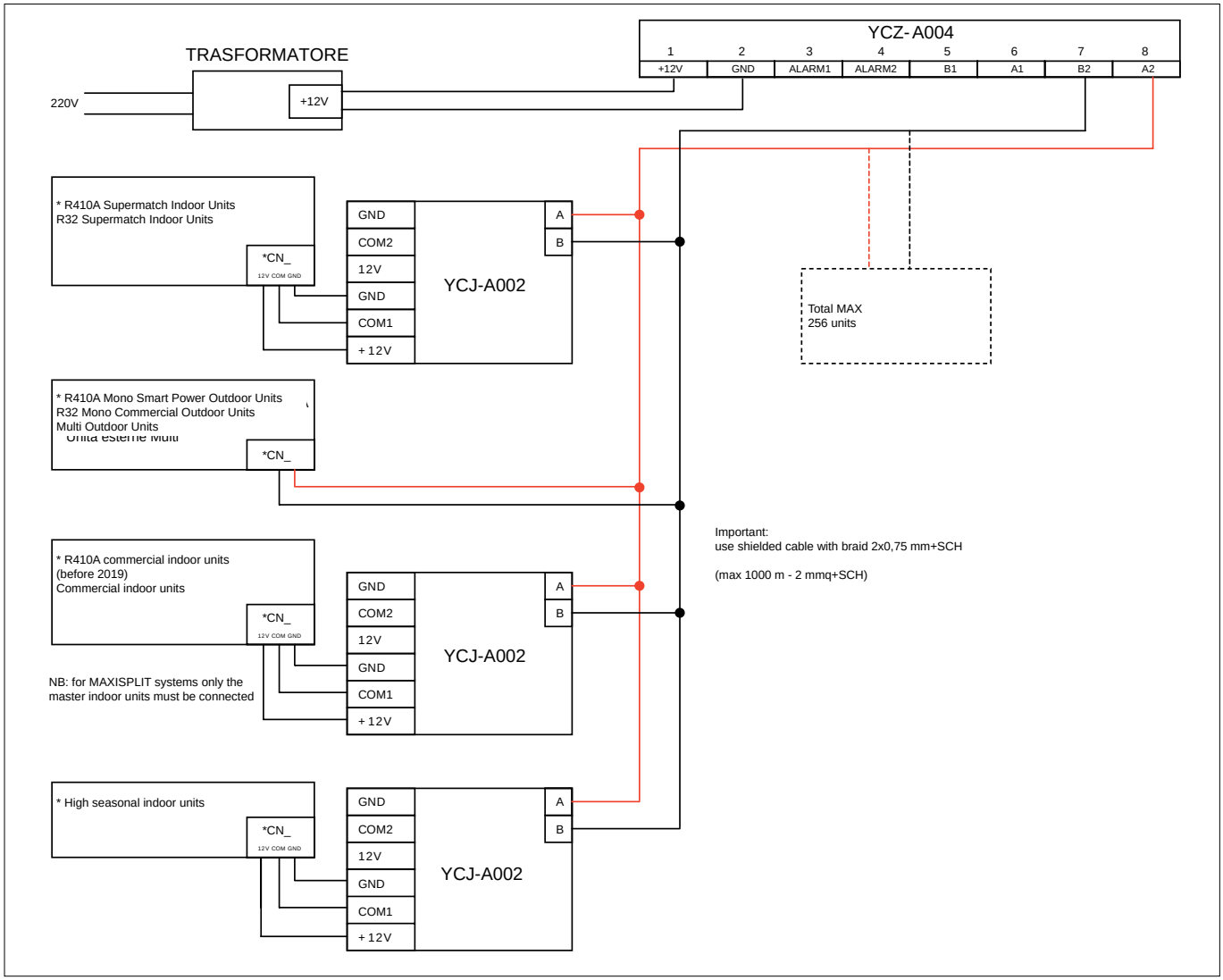
Power (12V, GND): 12V DC, pay attention to the + - of the power supply.
Fire alarm connection contact (ALARM1, ALARM2):
The air conditioner operates normally when the contact is closed, and is off when the contact is open.
B1, A1: Modbus communication port
B2, A2: RS485 communication port (A2=485+ / B2=485-)

HOME SCREEN ILLUSTRATION



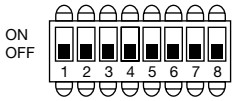
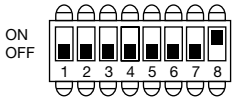
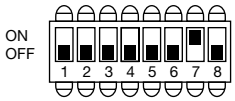
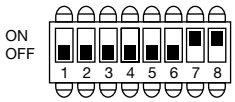
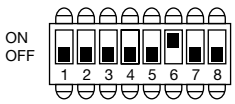
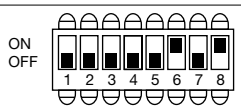
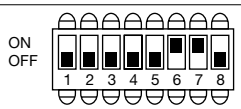
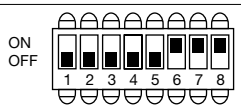
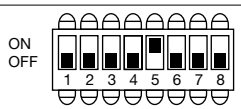
After you turn on the centralised controller, the Home page will appear as in the image above and the detailed menu will look like below:

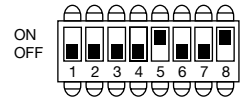
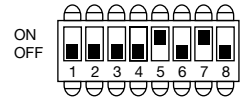
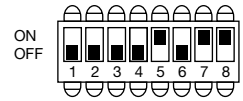
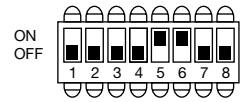
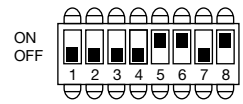
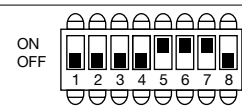
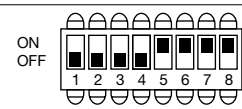
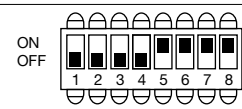
CENTRALISED CONTROLLER YCZ-A004



R410A Supermatch Indoor Units	Connector	R32 Supermatch Indoor Units	Connector
AS__NS1HRA (NEBULA)	CN36	AS__S2SD1FA (DAWN)	CN36
AS__BS4HRA (BREZZA)	CN36	AS__S2SN_FA (NEBULA)	CN36
		AS__S2SF2FA (IES)	CN36
		AS__S2SF1FA (FLEXIS)	CN36
		AS__TADHRA (TUNDRA 2.0)	CN36
R410A Commercial Indoor Units (before 2019)	**Connector**	**Commercial Indoor Units**	**Connector**
AB__CS1ERA (Cassette)	CN13	AF__S2SD1FA (Console)	CN13
AB__CS2ERA(S) (Cassette)	CN13	AB__S2SC1FA (Cassette 700)	CN13
AB__ES1ERA(S) (Cassette)	CN19	AB__S2SC2FA (Cassette 620)	CN13
AC__ES1ERA (Ceiling/Floor Convertible)	CN19	AB__S2SG1FA (Cassette Round Flow)	CN13
AC__FS1ERA (Ceiling/Floor Convertible)	CN19	ABH___H1ERG (Cassette Round Flow)	CN13
AD__SS1ERA (Ducted Low Pressure)	CN19	ABH___K1ERG (Cassette Round Flow)	CN13
AD__MS1ERA (Ducted Medium Pressure)	CN19	AC__S2SG1FA (Ceiling/Floor Convertible)	CN13
AD__NS1ERA (Ducted Medium Pressure)	CN19	AC___S2SK1FA (Ceiling/Floor Convertible)	CN13
AD__HS1ERA (Ducted High Pressure)	CN19	AD__SS1FA (Ducted Low Pressure)	CN19
AP__KS1ERA (KS Tower)	CN19	AD__S2SM3FA (Ducted Medium Pressure)	CN19
AP__DS1ERA (DS Tower)	CN19	ADH___H1ERG (Ducted High Pressure)	CN24
R410A Mono Smart Power Outdoor Units	**Connector**		
1UH___N1ERG	C1-C2		
1UH___P1ERG	C1-C2		
1UH___P1ERK	C1-C2		
R32 Mono Commercial Outdoor Units	**Connector**	**Multi Outdoor Units**	**Connector**
1U___S2SN1FA	C1-C2	3U__S2SR2FA (R32)	C1-C2
1U___S2SP1FA	C1-C2	4U__S2SR2FA (R32)	C1-C2
1U___S2SN1FB	C1-C2	5U__S2SS2FA (R32)	C1-C2
1U___S2SP1FB	C1-C2	3U__FS1ERA (R410A)	C1-C2
1UH___W1ERK	C1-C2	4U__HS1ERA (R410A)	C1-C2
		5U__HS1ERA (R410A)	C1-C2

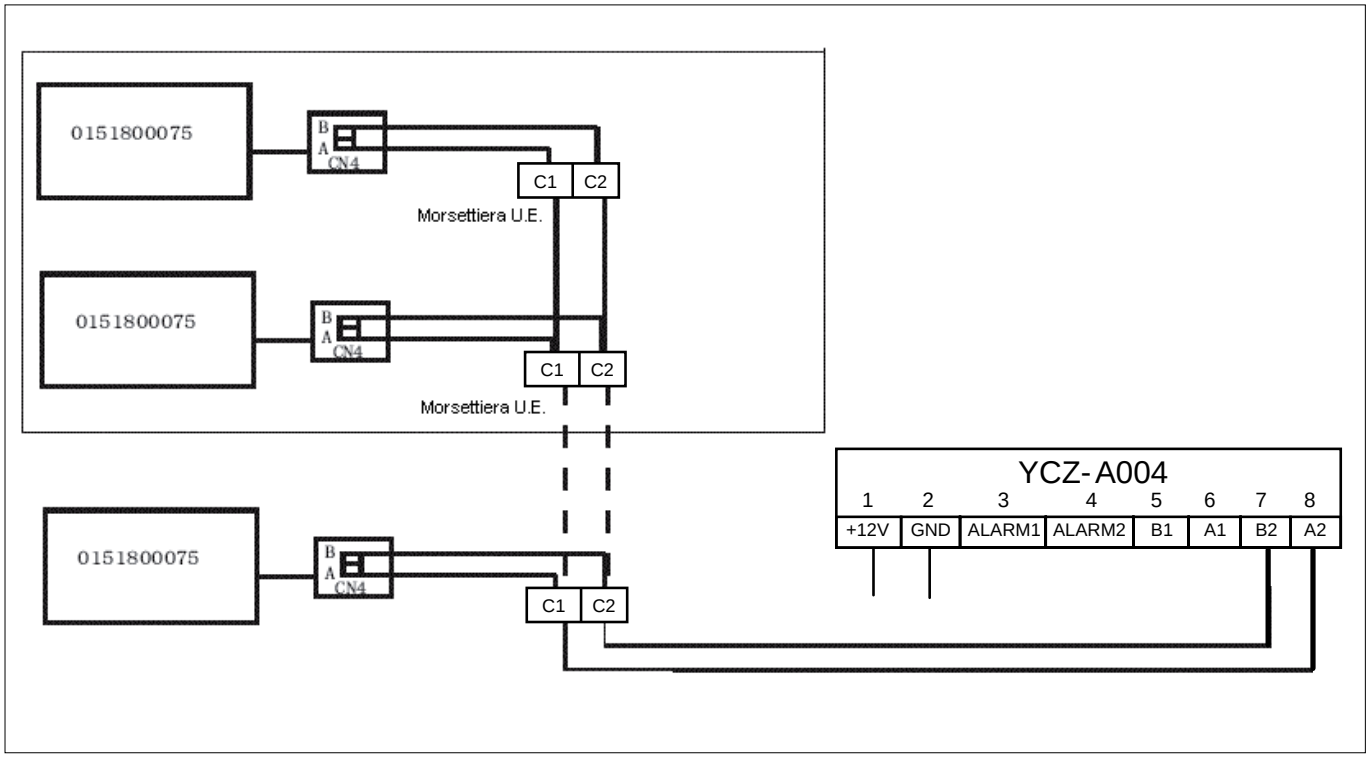
UNIT ADDRESS SETTINGS (to be set using switches on the YCJ-A002 INTERFACE

SW01	Address 1-128
	1
	2
	3
	4
	5
	6
	7
	8
	9

SW01	Address 1-128
	10
	11
	12
	13
	14
	15
	16
	128

LEDs 1 and 3 on the YCJ-A002 interface indicate proper communication by blinking quickly.

CONNECTING MULTI 1:3 1:4 1:5 OUTDOOR UNITS TO A YCZ-A004 CENTRALISED CONTROLLER



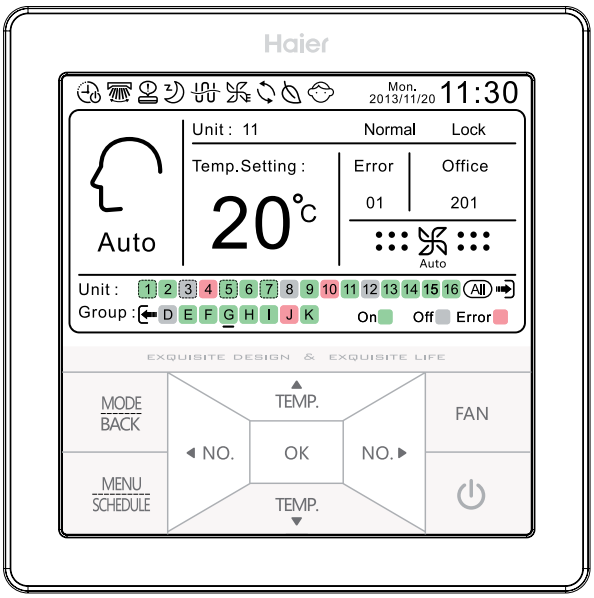
With each YCZ-A004 centralised controller, up to 51 outdoor units can be connected, where each outdoor unit indiscriminately occupies 5 addresses in the centralised controller.

Use shielded cable (2x0.75 mmq) for the connection between centralised controller and outdoor units

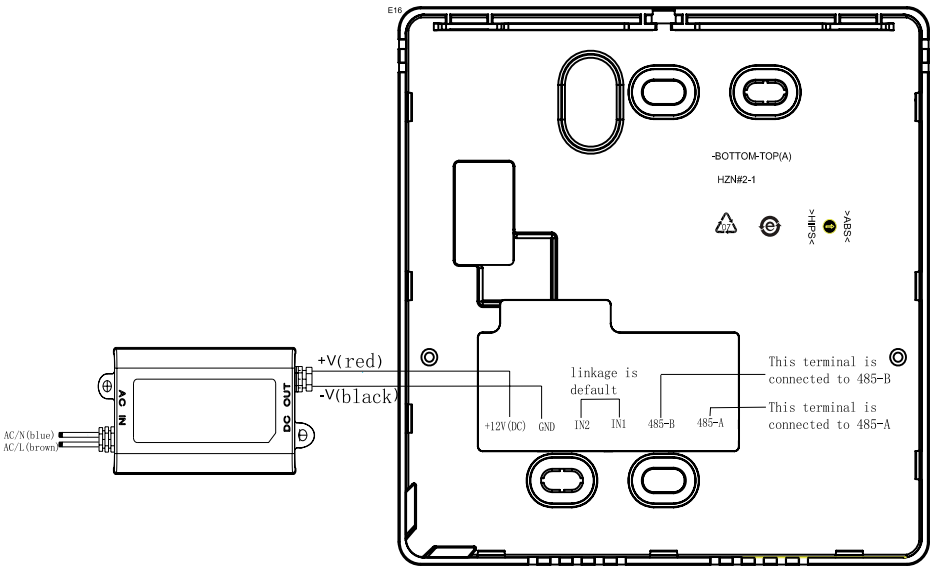
Maximum system length 1000 m (2x1.5 mmq shielded).

For setting addresses, refer to:

- **page 82** for multi unit in **R32**



YCZ-G001 CENTRALISED CONTROLLER CONNECTIONS



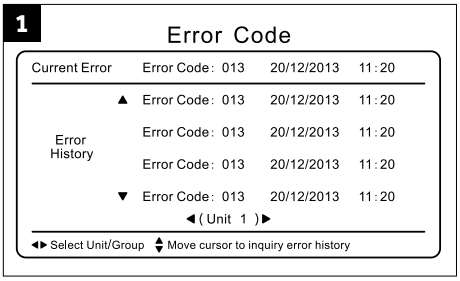
Error Code

Press the keys with the directional arrows to move around the screen. When the line containing the alarm code flashes press the OK key as in Figure 1

Only 1 current alarm can be displayed, while up to 10 historical alarms can be recalled.

Press the up and down keys to select the error code and the right and left keys to select the indoor unit/group number.

1

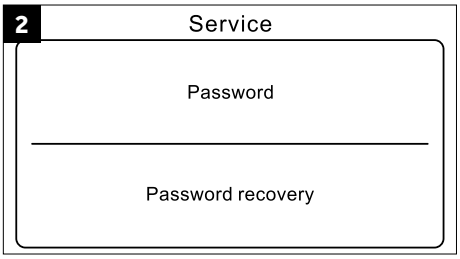


Service Settings

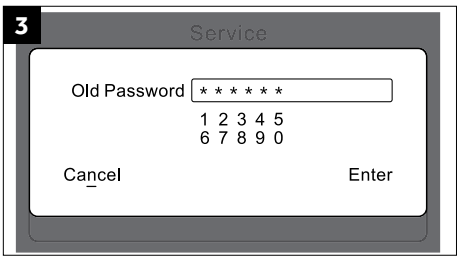
Select the "SERVICE" icon from the menu and press the OK key.

Press the Up or Down keys to select "PASSWORD" or "PASSWORD RECOVERY", then press the OK key. (Figure 2)

2



3

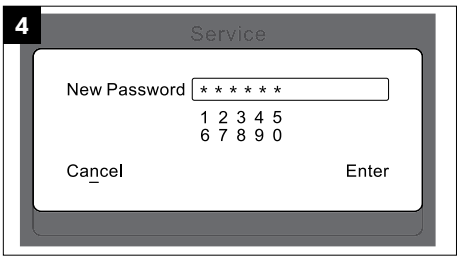


Press the directional arrows to change the password numbers, press OK or CANCEL.

When the cursor flashes on the number, press OK to change it.

After entering a 6-digit password, press the OK key to confirm or CANCEL to cancel. (Figure 4)

4



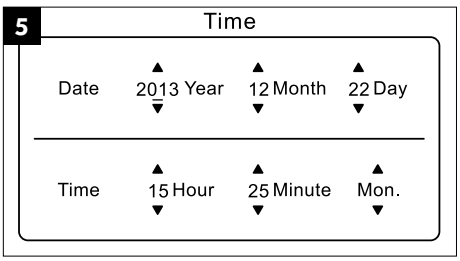
Timer Settings

Press the directional arrows to move through the menu. When the clock icon flashes, press the OK button to enter the screen (Figure 5)

Press the Up and DOWN arrows to change the date and time, then press the OK key to confirm.

Press the Right and Left arrows to move sideways.

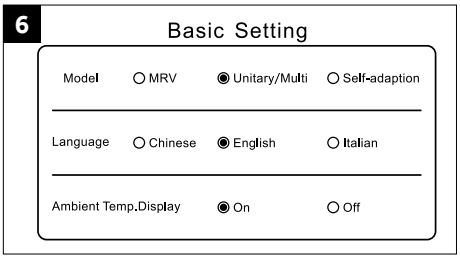
5



Basic Functions

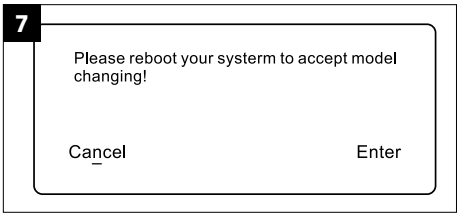
1) Use the directional arrows to move through the menu, then select the "BASIC SETTING" icon and press OK. Enter the login password "841226" to access the screen shown in the figure (Figure 6). Press the directional arrows and press the OK button to confirm.
2) In factory the language is set to English and the ambient temperature is invisible. Change the settings as desired.
3) Select the communication protocol between: MRV, unitary multi, self-adaption.

6

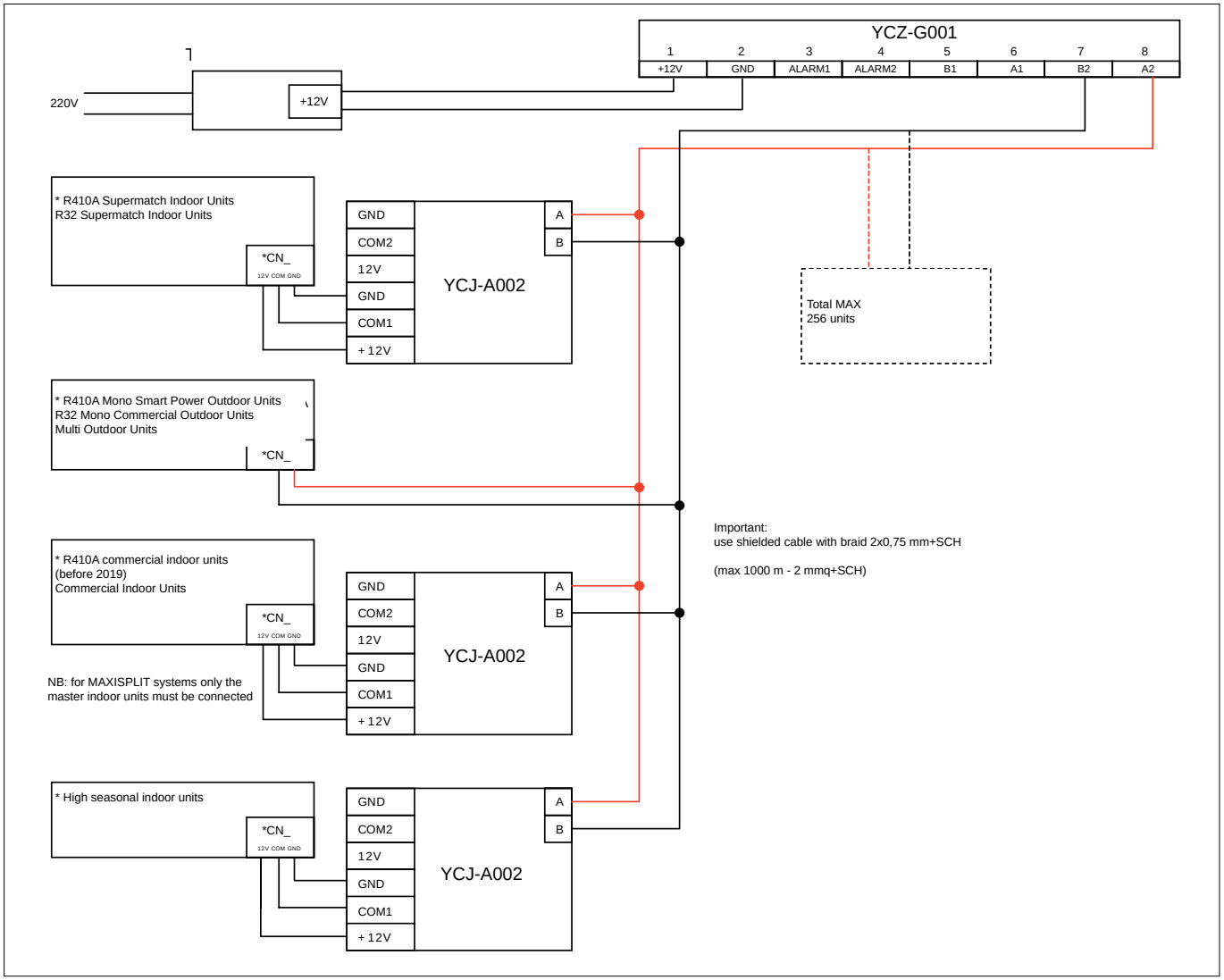


4) After changing the various settings, you will be prompted to restart the controller as indicated (Figure 7)

7

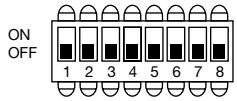
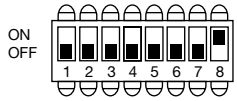
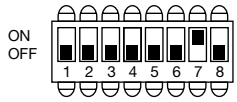
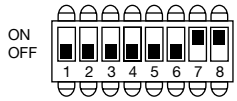
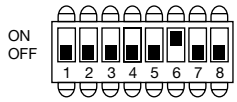
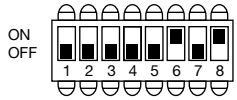


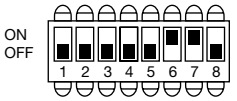
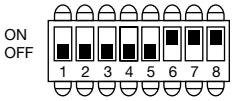
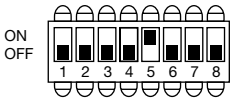
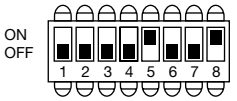
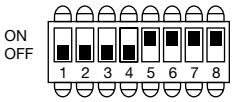
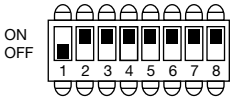
CENTRALISED CONTROLLER YCZ-G001



R410A Supermatch Indoor Units	Connector	R32 Supermatch Indoor Units	Connector
AS__NS1HRA (NEBULA)	CN36	AS__S2SD1FA (DAWN)	CN36
AS__BS4HRA (BREZZA)	CN36	AS__S2SN_FA (NEBULA)	CN36
		AS__S2SF2FA (IES)	CN36
		AS__S2SF1FA (FLEXIS)	CN36
		AS__TADHRA (TUNDRA 2.0)	CN36
R410A Commercial Indoor Units (before 2019)	**Connector**	**Commercial Indoor Units**	**Connector**
AB__CS1ERA (Cassette)	CN13	AF__S2SD1FA (Console)	CN13
AB__CS2ERA(S) (Cassette)	CN13	AB__S2SC1FA (Cassette 700)	CN13
AB__ES1ERA(S) (Cassette)	CN19	AB__S2SC2FA (Cassette 620)	CN13
AC__ES1ERA (Ceiling/Floor Convertible)	CN19	AB__S2SG1FA (Cassette Round Flow)	CN13
AC__FS1ERA (Ceiling/Floor Convertible)	CN19	ABH___H1ERG (Cassette Round Flow)	CN13
AD__SS1ERA (Ducted Low Pressure)	CN19	ABH___K1ERG (Cassette Round Flow)	CN13
AD__MS1ERA (Ducted Medium Pressure)	CN19	AC__S2SG1FA (Ceiling/Floor Convertible)	CN13
AD__NS1ERA (Ducted Medium Pressure)	CN19	AC___S2SK1FA (Ceiling/Floor Convertible)	CN13
AD__HS1ERA (Ducted High Pressure)	CN19	AD__SS1FA (Ducted Low Pressure)	CN19
AP__KS1ERA (KS Tower)	CN19	AD__S2SM3FA (Ducted Medium Pressure)	CN19
AP__DS1ERA (DS Tower)	CN19	ADH___H1ERG (Ducted High Pressure)	CN24
R410A Mono Smart Power Outdoor Units	**Connector**		
1UH___N1ERG	C1-C2		
1UH___P1ERG	C1-C2		
1UH___P1ERK	C1-C2		
R32 Mono Commercial Outdoor Units	**Connector**	**Multi Outdoor Units**	**Connector**
1U___S2SN1FA	C1-C2	3U__S2SR2FA (R32)	C1-C2
1U___S2SP1FA	C1-C2	4U__S2SR2FA (R32)	C1-C2
1U___S2SN1FB	C1-C2	5U__S2SS2FA (R32)	C1-C2
1U___S2SP1FB	C1-C2	3U__FS1ERA (R410A)	C1-C2
1UH___W1ERK	C1-C2	4U__HS1ERA (R410A)	C1-C2
		5U__HS1ERA (R410A)	C1-C2

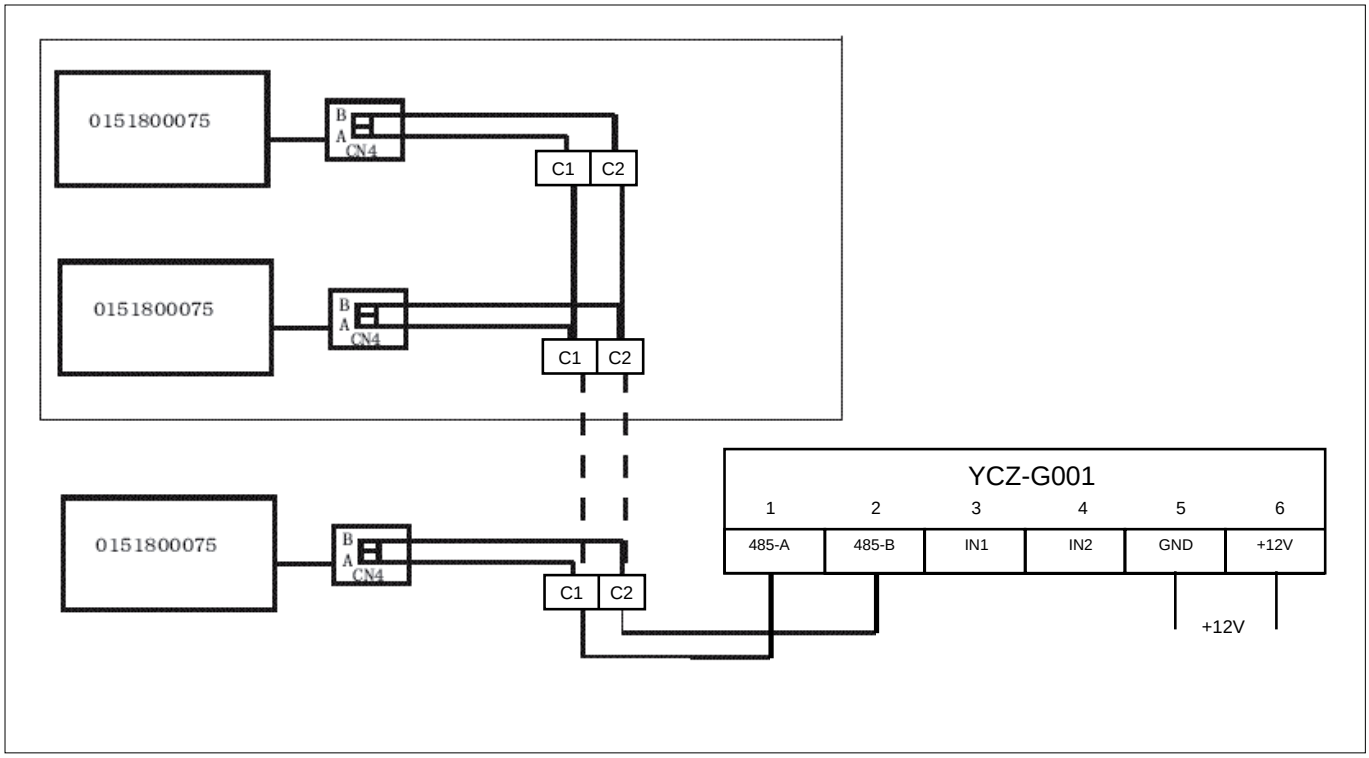
UNIT ADDRESS SETTINGS (to be set using switches on the YCJ-A002 INTERFACE

SW01	Address 1-128
	1
	2
	3
	4
	5
	6

SW01	Address 1-128
	7
	8
	9
	10
	16
	128

LEDs 1 and 3 on the YCJ-A002 interface indicate proper communication by blinking quickly.

CONNECTING MULTI 1:3 1:4 1:5 OUTDOOR UNITS TO A YCZ-G001 CENTRALISED CONTROLLER



With each YCZ-G001 centralised controller, up to 6 outdoor units can be connected, where each outdoor unit indiscriminately occupies 5 addresses in the centralised controller.

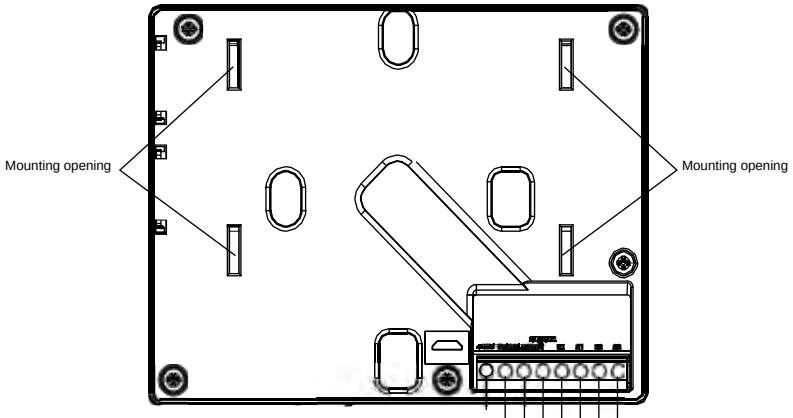
Use shielded cable (2x0.75 mmq) for the connection between centralised controller and outdoor units

Maximum system length 1000 m (2x1.5 mmq shielded).

For setting addresses, refer to:

- **page 82** for multi unit in **R32**

USER INTERFACE



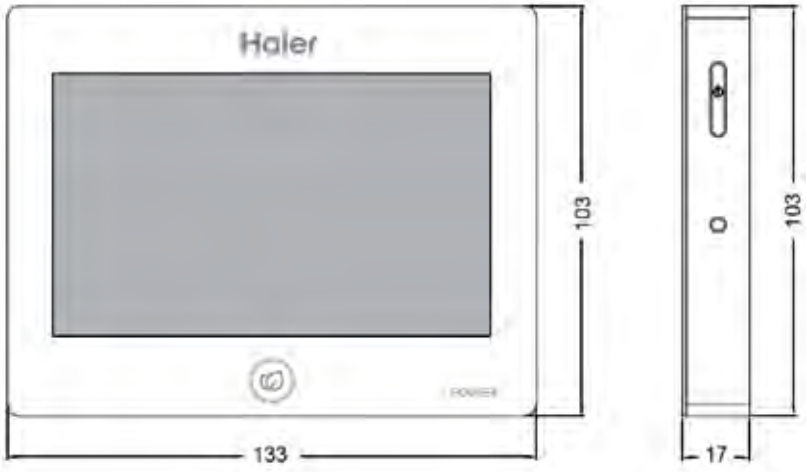
Power supply:
12V CC, there is a +/- for power supply

The air conditioner operates normally when the contact is closed, and is off when the contact is open.

Interface

Communication port for connecting the converter

Dimensions



OPERATION

Parameters and control of indoor units

To see the settings for each indoor unit, touch the Air Conditioner icon.

The figure shows the On/Off, Mode, Set Temperature, Ambient Temperature, Fan Speed, and Control Mode icons for connected indoor units.

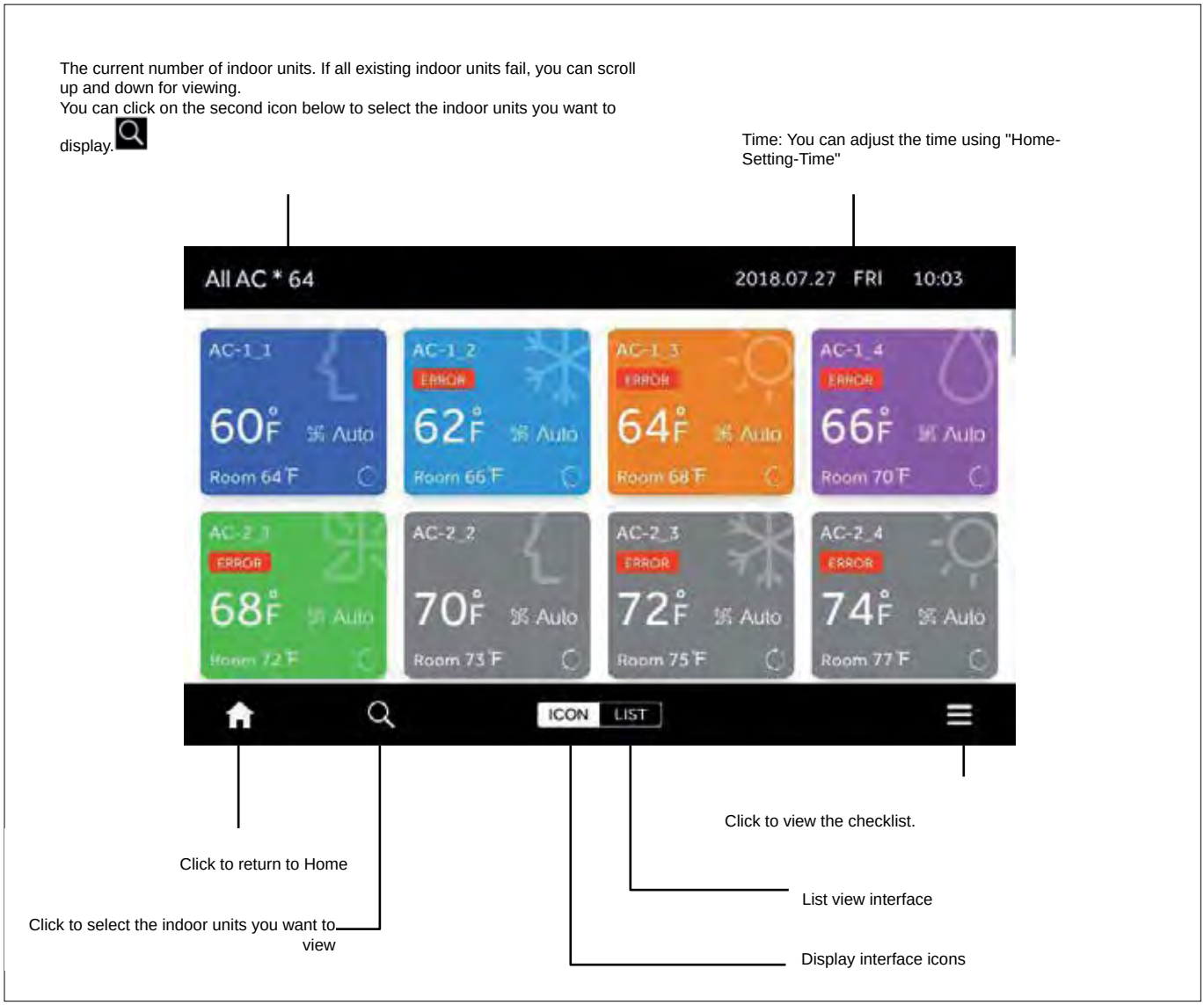
- Automatic mode - dark blue
- Cooling mode - blue
- Heating mode - orange
- Dehumidification mode - purple
- Fan mode - green
- Indoor unit turned off - gray

In the event of an indoor unit failure, the ERROR icon appears on the centralised controller.

Access the following interface: the icons show the internal switch, mode, set temperature, room temperature, airflow speed, and control mode.

Dark blue indicates automatic mode, blue indicates cooling, orange indicates heating, purple indicates dehumidification, green indicates airflow and gray indicates off.

In the event of a failure, the error icon is displayed.

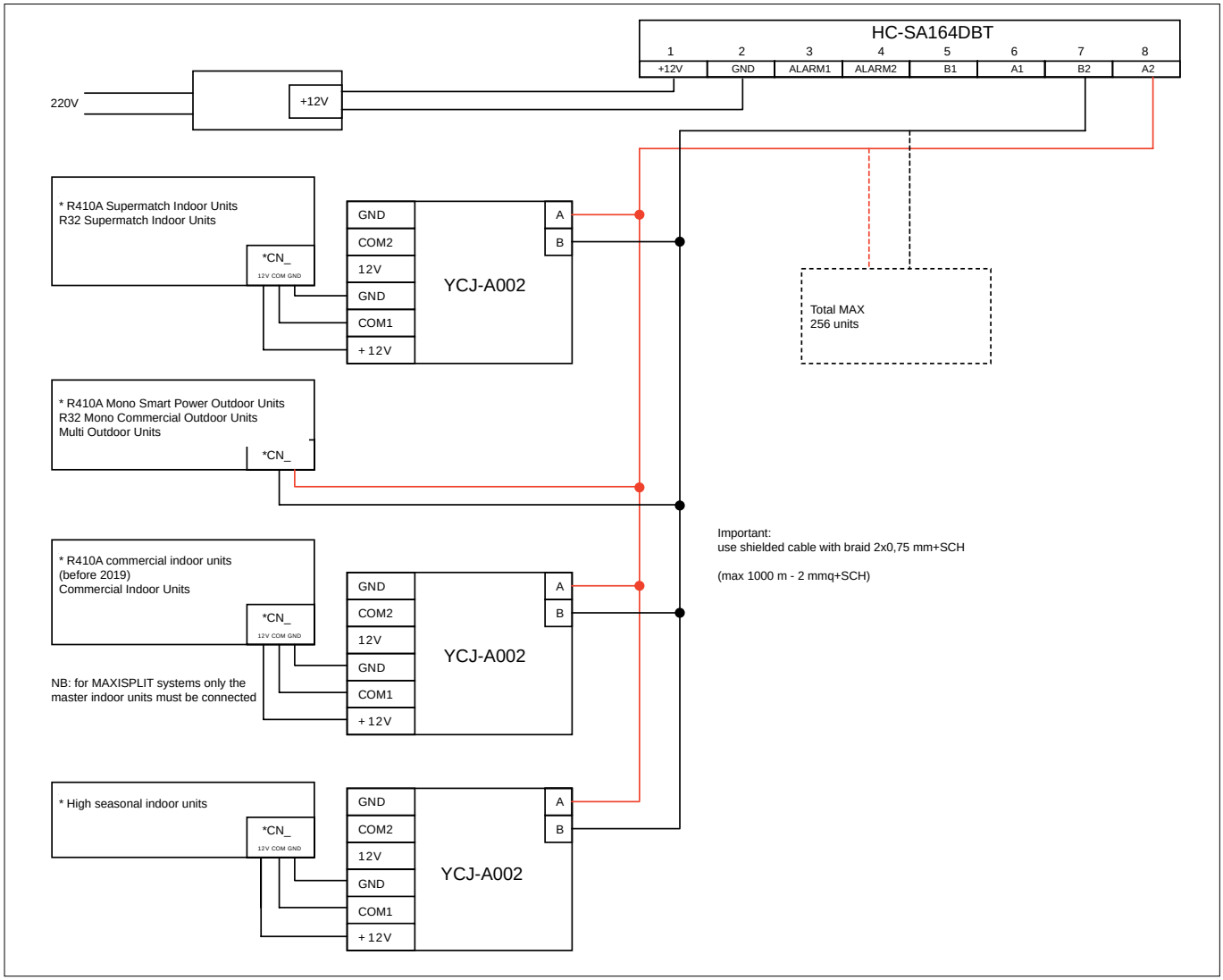


Service (Maintenance)

Press the "Service" key and the "Confirm" key in the pop-up window that prompts you to enter your password.

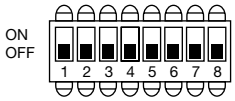
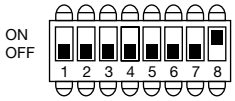
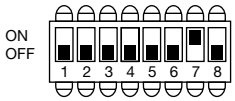
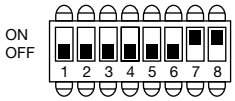
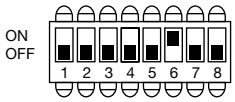
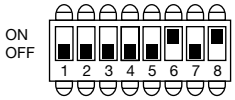
Enter the password 841226 and press "Login".

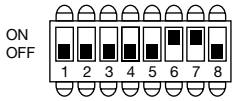
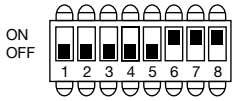
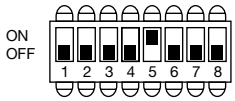
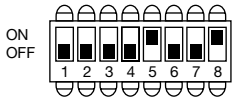
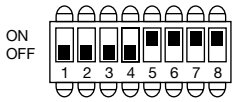
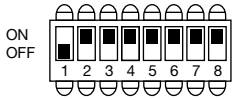
CENTRALISED CONTROLLER HC-SA164DBT



R410A Supermatch Indoor Units	Connector	R32 Supermatch Indoor Units	Connector
AS__NS1HRA (NEBULA)	CN36	AS__S2SD1FA (DAWN)	CN36
AS__BS4HRA (BREZZA)	CN36	AS__S2SN_FA (NEBULA)	CN36
		AS__S2SF2FA (IES)	CN36
		AS__S2SF1FA (FLEXIS)	CN36
		AS__TADHRA (TUNDRA 2.0)	CN36
R410A Commercial Indoor Units (before 2019)	**Connector**	**Commercial Indoor Units**	**Connector**
AB__CS1ERA (Cassette)	CN13	AF__S2SD1FA (Console)	CN13
AB__CS2ERA(S) (Cassette)	CN13	AB__S2SC2FA (Cassette 620)	CN13
AB__ES1ERA(S) (Cassette)	CN19	AB__S2SC1FA (Cassette 700)	CN13
AC__ES1ERA (Ceiling/Floor Convertible)	CN19	AB__S2SG1FA (Cassette Round Flow)	CN13
AC__FS1ERA (Ceiling/Floor Convertible)	CN19	ABH___H1ERG (Cassette Round Flow)	CN13
AD__SS1ERA (Ducted Low Pressure)	CN19	ABH___K1ERG (Cassette Round Flow)	CN13
AD__MS1ERA (Ducted Medium Pressure)	CN19	AC__S2SG1FA (Ceiling/Floor Convertible)	CN13
AD__NS1ERA (Ducted Medium Pressure)	CN19	AC___S2SK1FA (Ceiling/Floor Convertible)	CN13
AD__HS1ERA (Ducted High Pressure)	CN19	AD__SS1FA (Ducted Low Pressure)	CN19
AP__KS1ERA (KS Tower)	CN19	AD__S2SM3FA (Ducted Medium Pressure)	CN19
AP__DS1ERA (DS Tower)	CN19	ADH___H1ERG (Ducted High Pressure)	CN24
R410A Mono Smart Power Outdoor Units	**Connector**		
1UH___N1ERG	C1-C2		
1UH___P1ERG	C1-C2		
1UH___P1ERK	C1-C2		
R32 Mono Commercial Outdoor Units	**Connector**	**Multi Outdoor Units**	**Connector**
1U___S2SN1FA	C1-C2	3U__S2SR2FA (R32)	C1-C2
1U___S2SP1FA	C1-C2	4U__S2SR2FA (R32)	C1-C2
1U___S2SN1FB	C1-C2	5U__S2SS2FA (R32)	C1-C2
1U___S2SP1FB	C1-C2	3U__FS1ERA (R410A)	C1-C2
1UH___W1ERK	C1-C2	4U__HS1ERA (R410A)	C1-C2
		5U__HS1ERA (R410A)	C1-C2

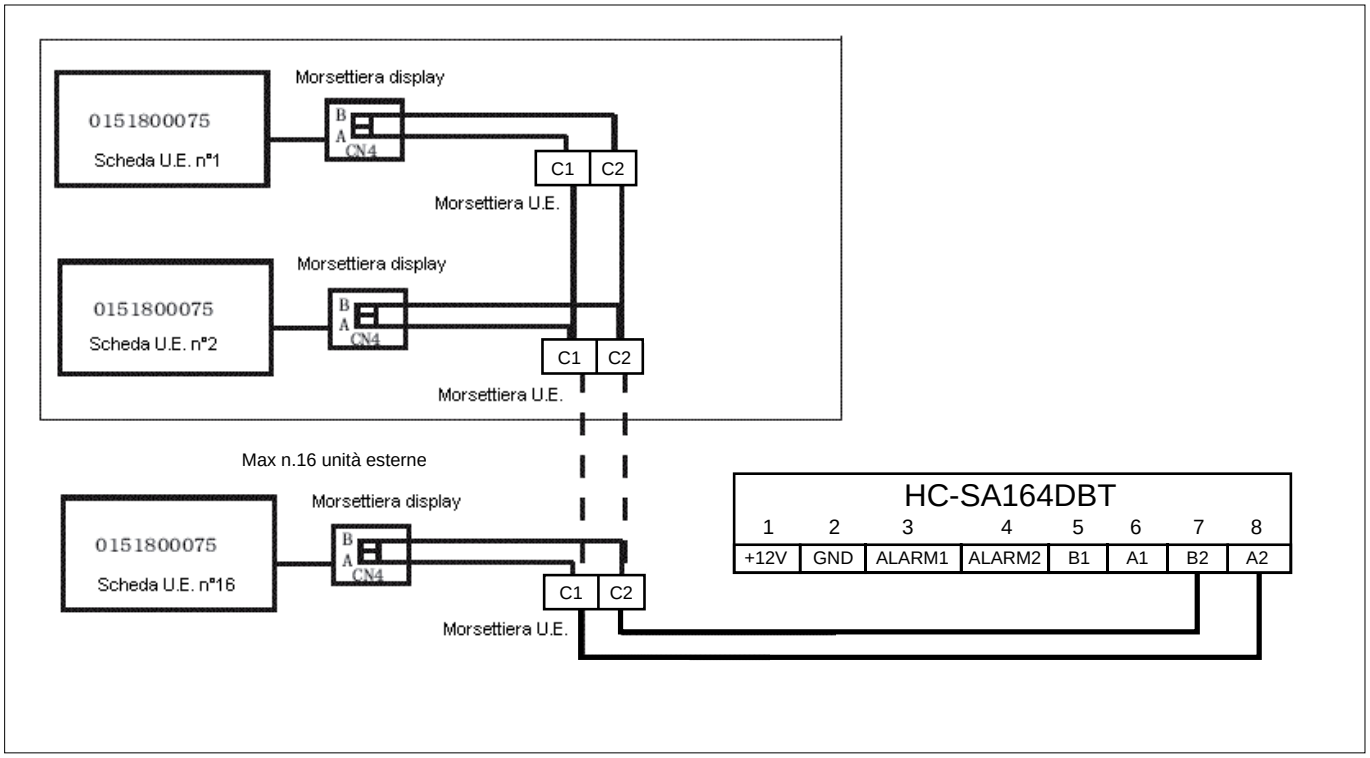
UNIT ADDRESS SETTINGS (to be set using switches on the YCJ-A002 INTERFACE

SW01	Address 1-128
	1
	2
	3
	4
	5
	6

SW01	Address 1-128
	7
	8
	9
	10
	16
	128

LEDs 1 and 3 on the YCJ-A002 interface indicate proper communication by blinking quickly.

CONNECTING MULTI 1:3 1:4 1:5 OUTDOOR UNITS TO A HC-SA164DBT CENTRALISED CONTROLLER



With each HC-SA164DBT centralised controller, up to 12 outdoor units can be connected, where each outdoor unit indiscriminately occupies 5 addresses in the centralised controller.

Use shielded cable (2x0.75 mmq) for the connection between centralised controller and outdoor units

Maximum system length 1000 m (2x1.5 mmq shielded).

For setting addresses, refer to:

- **page 82** for multi unit in **R32**

USER INTERFACE

KEYS	
—	Left cursor: Selects operating mode on the main screen, serves as "back" key in other screens.
∩	Selects "smart" operating mode.
◀ ▶	Left/right, selects fan speed, adjusts deflector position on main screen, moves cursor.
▲ ▼	High/low, temperature adjustment set on the main screen, move cursor, and change values.
□	Selects menu on the main screen, confirmation key.
—	Right cursor: Selects deflectors on the main screen, serves as "return to main menu" key in other screens. Ventilator speed selection when the deflector oscillation function is not set.
⏻	On/Off

1. Error code

Press enter in the alarm signalling icon.

- The UP and DOWN keys select the unit, the RIGHT and LEFT keys change the page.
- Only one current alarm is visible while up to 35 historical alarms can be displayed.
- Press the left and right keys at the same time for 5 seconds to clear the error history of the current unit. Press the up and down keys simultaneously for 5 seconds to clear the history of all online units.

2. Password recovery

Press enter in the alarm signalling icon.

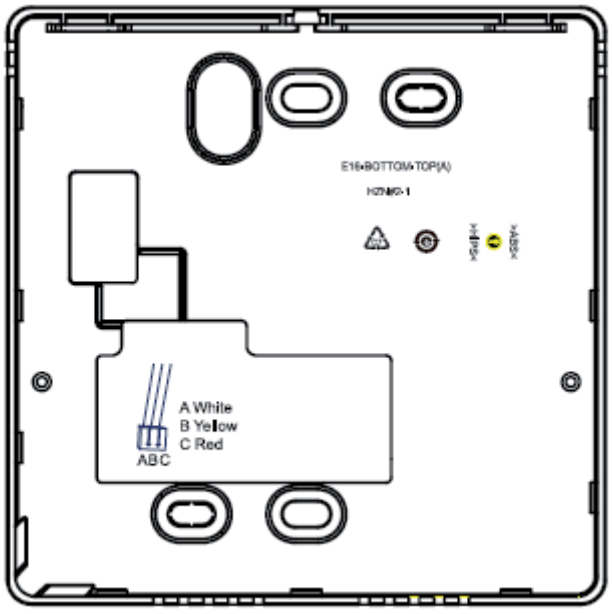
- Press enter in the service icon
- The password feature includes the password setting and password recovery. The default code is 841226.

- If you have set up password recovery, the following screen will appear with cancel or confirm options.

- The recovery function is reserved only for some models. The information is gray when it is not selectable.

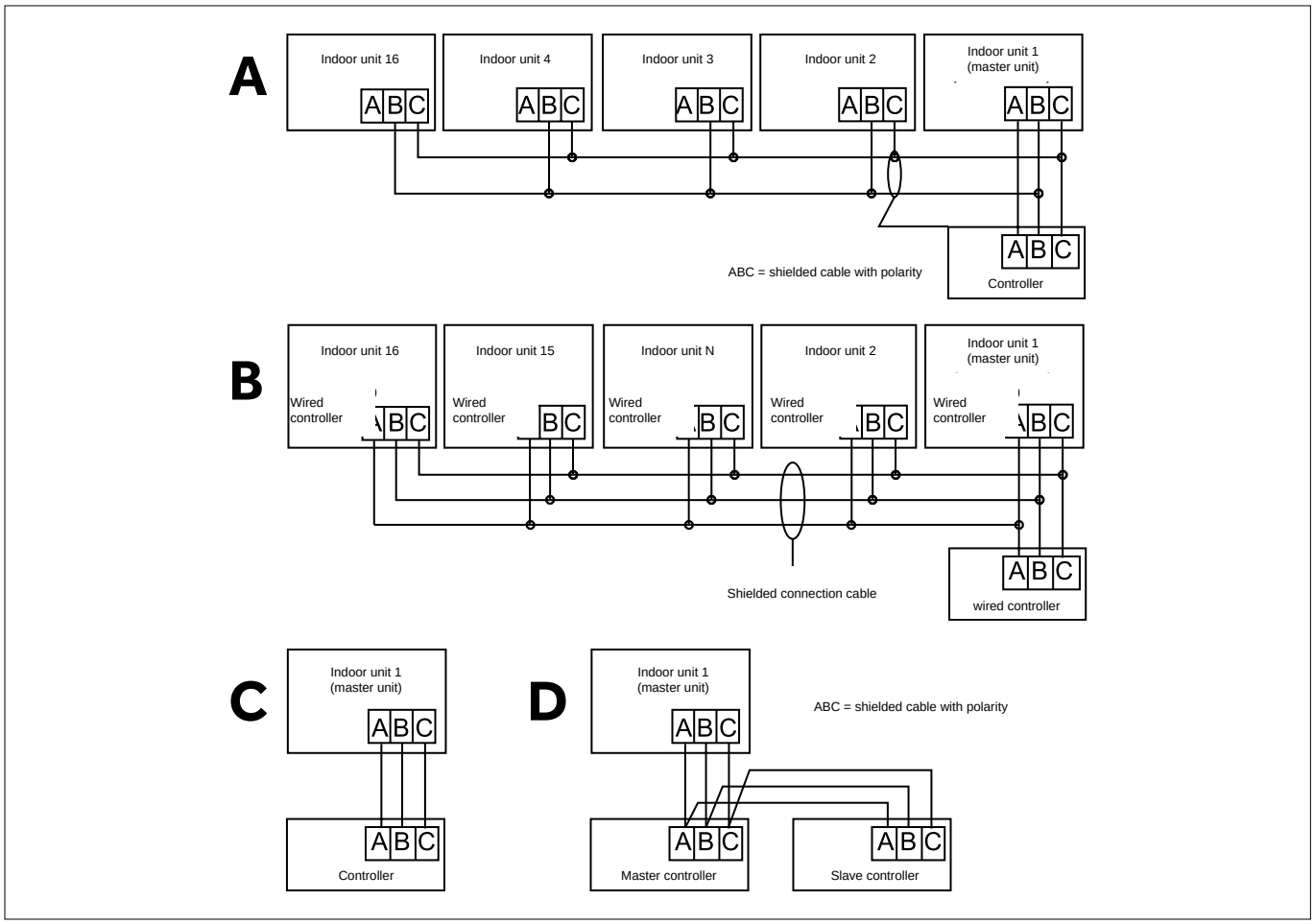
ELECTRICAL WIRING INSTRUCTIONS

1. First, put the communication cable through the hole of the back cover.
2. Connect the communication cable to the CON4 connector. Then put the front cover back on.



CONTROLLER WIRING

Electrical connections



There are four methods to connect the wired controller with the indoor units.

A. **(For boards with outdoor transformer)**a single wired controller can control up to 16 indoor units. The wired controller will be connected via a three-conductor polarised shielded cable (A-B-C) to the first indoor unit that will be addressed as "Master" (refer to the indoor unit board settings), while the other indoor units will be connected by a cable with only two conductors (B-C).

B. **(For boards with transformer on board)** same conditions as case A, but all indoor units will be connected by the same cable with three conductors (A-B-C).

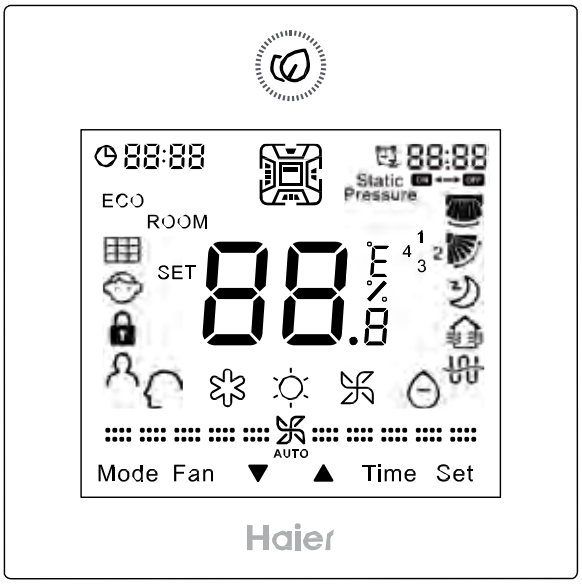
C. A wired controller controls a single indoor unit via a polarised three-conductor shielded cable (A-B-C)

D. Two wired controllers control a single indoor unit. The first wired controller, set as "Master" (SW1-OFF) is connected with the indoor unit and the second wired controller set as "Slave" (SW1-ON) via a polarised three-conductor shielded cable (A-B-C).

A-B-C communication cable specifications	
Cable length (m)	**Cable section**
<100	3x0.5 mm² + SCH*
≥100 and <200	3x0.5 mm² + SCH*
≥200 and <300	3x0.75 mm² + SCH*
≥300 and <400	3x1.5 mm² + SCH*
≥400 and <500	3x2 mm² + SCH*

*connect only one end of the screen to ground.

DISPLAY INTERFACE



OPERATION

Meaning SW1 Selection Dip Switches

The selection switches are located on the electronic board in the rear of the controller.

DIP switch	Station On/Off	Function	Default settings
SW1-1	On	"Slave" controller	OFF
	Off	"Master" controller	
SW1-2	On	Ambient temperature view enabled	OFF
	Off	Ambient temperature view disabled	
SW1-3	On	Measurement of indoor unit ambient temperature	OFF
	Off	Measurement ambient temperature from wired controller	
SW1-4	On	Restart after power failure disabled	OFF
	Off	Restart after power failure enabled	
SW1-5	On	Old protocol	OFF
	Off	Self-adaptation	
SW1-6	On	Reserved	OFF
	Off	Reserved	
SW1-7	On	Selecting top/bottom and left/right deflectors	OFF
	Off	Select Up/Down deflectors	
SW1-8	On	Air exchange unit	OFF
	Off	General unit	

Alarm display

(1) Alarms don't automatically appear on the home screen

(2) With control mode on and without screen saver enabled, press the "Time" key for 10 seconds to see the codes of any alarms in all indoor units of the group. At first the clock and minutes flash. Continue pressing "Time" and the "unit number" will flash in the upper right in the 88 format and the alarm codes in the upper left in the 88:88 format. The first two digits in the left indicate the current alarm and the other two after the ":" the last stored alarm.

(2) The unit number is displayed in decimal number and the alarm code in hexadecimal format.

(3) All hexadecimal numbers referring to malfunction are uppercase, but "b" and "d" are lowercase in order to avoid confusion with "8".

(4) If there is no active alarm (current or historical), two separate dashes "--:--" are displayed.
Press the "Time" key to exit the alarm query state; information about the clock and timer will be displayed.

(5) Acknowleding/cancelling the alarm:

When displaying alarms, press "Time" for 5 seconds until 4 dashes "--:--" appear.

(6) Press ts to choose the unit number (when multiple units in group) and repeat the above for each unit.

Child Lock

(1) The Child Lock function can be used to prevent operation errors. All keys are locked after pressing SET and t simultaneously for 5 seconds. The Child Lock icon appears on the display. All setting functions are quitted and previous status is maintained. All keys are disabled including "ON/OFF".
(2) The screen is unlocked again by holding down "Set" and t keys together for 5 seconds; Child Lock icon disappears and all keys are enabled.

Note:
When checking the Fresh Air unit, the ts keys do not appear on the display. To set the Child Lock function, press the "TIME" key once to display the ts keys and then press "Set" and the t keys together for 5 seconds. After you set the Child Lock, the ts keys remain.

Reading Parameters

(1) Hold down "Set" for 5 seconds (10 seconds for the 4-way cassette model) to enter the parameters reading menu. The unit number is displayed at top left in the 88 format and the data type is displayed in the timer area at the top right in the 88:88 format. The data type is displayed by one of the following letters A, b, C, d, E, and F. The value of the data is displayed after the letter. For example, if the ambient temperature of the unit 00 is 16 degrees, it is displayed as "00 A 16".
Press ts to read the other data A, b, C, d, E, and F.
(2) When reading parameters, press the TIME key to change the address of the unit in the group.

Data	Meaning	System
A	Tai ambient temperature sensor	Current value, Decimal system
B	Tc1 gas pipe temperature sensor	Current value, Decimal system
C	Tc2 liquid pipe temperature sensor	Current value, Decimal system
d	PMV valve opening (multiply the value to have the current position by 2)	Current value, Decimal system
E	Indoor unit address	Current value, Hexadecimal system
F	Address for centralised controller	Current value, Hexadecimal system

Reading and modifying the static fan pressure

(1) With the controller on and without a screensaver active, press the "Fan" and "Set" keys for 5s at the same time; The static pressure icon flashes and its current value is displayed.
Using the ts keys it is possible to modify the static pressure value. Press the SET key to confirm your modifications. Static Pressure
(2) The unit number is displayed in the minutes field in the upper-left corner with 88 and the static pressure value in the minutes field of the timer field in the upper right. Press the TIME key to move to the unit number.
(3) The unit number is displayed in decimal format between 00 and 15. The static pressure value is displayed in a decimal value between 01 and 04.
(4) When modifying, press the ON/OFF key to exit the function and turn the unit on/off without confirming any changes.
(5) The static pressure value is not retained when the auto restart function is not set.
(6) The static pressure value of "slave" units, when connected in groups, is not modifiable.
(7) The current/adjustable static pressure value of the indoor unit can be changed by the wired controller, only for certain models, from the advanced functions menu.

Controller malfunction

If there is no communication between controller and indoor unit for more than 4 minutes, error code "07" will be displayed during the alarms query.

Temperature sensor malfunction

If the SW3 dip switch is in OFF (measure ambient temperature from the controller sensor) and the sensor has failed, the code "01" will be displayed when querying alarms.

Setting up ambient temperature sensor compensation

(1) With controller in OFF, hold down the "Fan" key for 5 seconds. The current value of ambient sensor temperature compensation appears flashing in the upper right corner of the screen. "00" is the default value.
(2) With the view in degrees Celsius, the ambient compensation value can be set from -04 to +04 °C. With the view in degrees Fahrenheit, it can be set from -07 to +07°F. The temp compensation value can be adjusted by pressing the ts keys.
(3) After modifications, press the "Set" key to confirm the settings.
(4) The compensation value is used only for the ambient temperature sensor.
(5) The compensation value is valid only when reading from the wired controller ambient sensor is selected (SW3 = OFF)

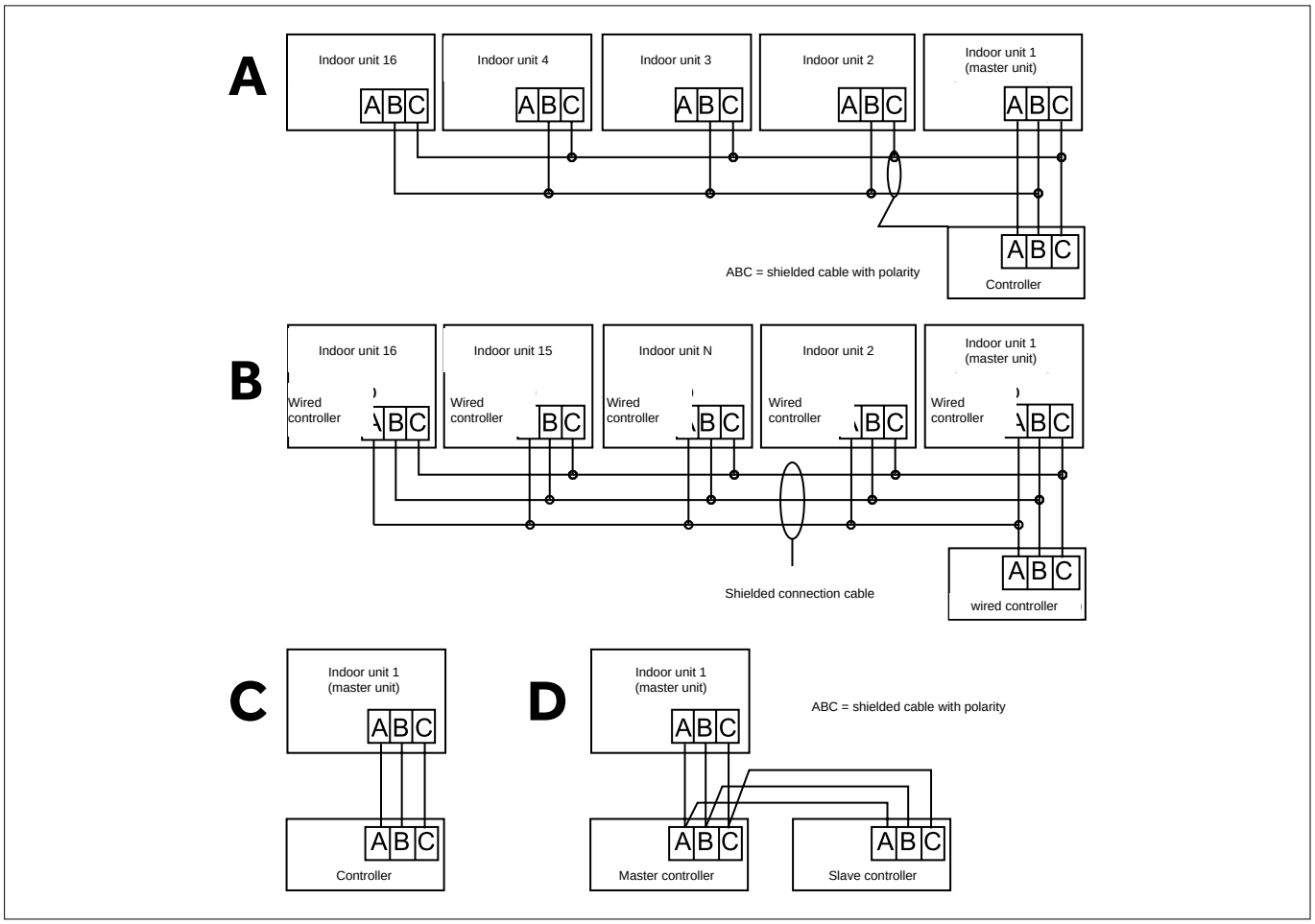
Forced cooling/heating

(1) With the controller OFF in cooling mode, hold down "ON/OFF" for 10 seconds to enter the forced cooling mode. The flashing "LL" icon will appear on the display in the temperature display area. Press the "ON/ OFF" key to turn off and exit forced cooling.

(2) With the controller OFF in heating mode, hold down "ON/OFF" for 10 seconds to enter the forced heating mode. The flashing "HH" icon will appear on the display in the temperature display area. Press the "ON/ OFF" key to turn off and exit forced cooling.

CONTROLLER WIRING

Electrical connections



There are four methods to connect the wired controller with the indoor units.

A. **(For boards with outdoor transformer)**a single wired controller can control up to 16 indoor units. The wired controller will be connected via a three-conductor polarised shielded cable (A-B-C) to the first indoor unit that will be addressed as "Master" (refer to the indoor unit board settings), while the other indoor units will be connected by a cable with only two conductors (B-C).

B. **(For boards with transformer on board)** same conditions as case A, but all indoor units will be connected by the same cable with three conductors (A-B-C).

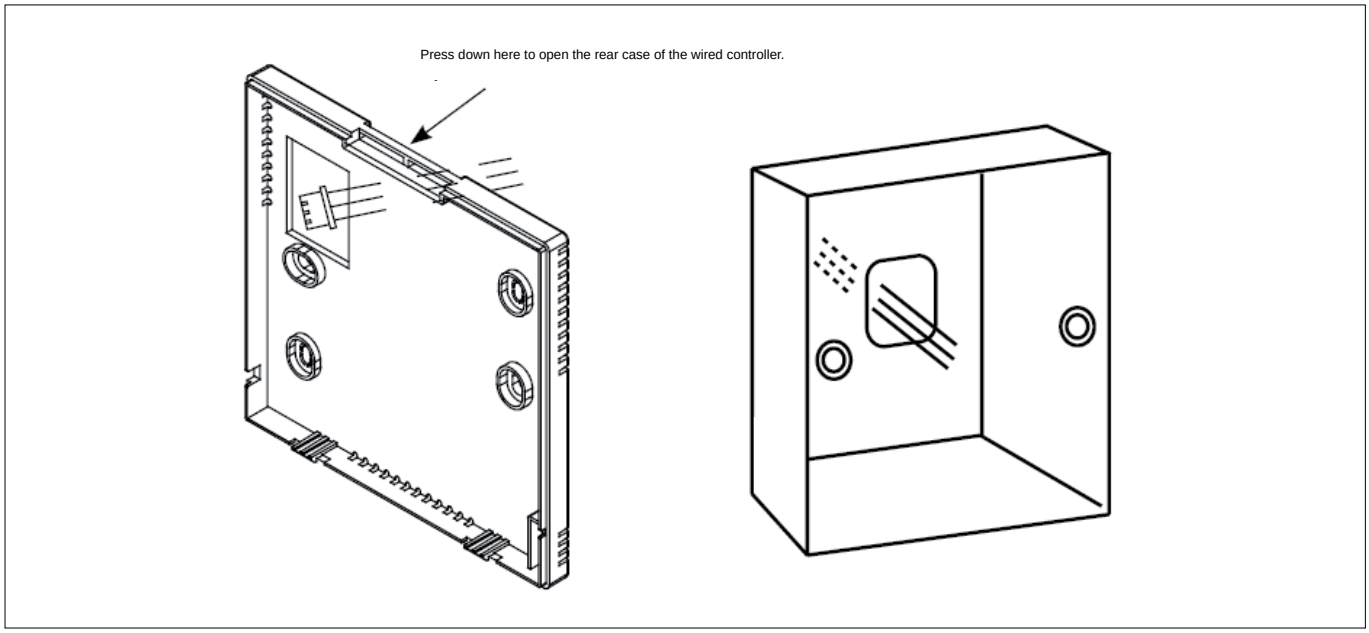
C. A wired controller controls a single indoor unit via a polarised three-conductor shielded cable (A-B-C)

D. Two wired controllers control a single indoor unit. The first wired controller, set as "Master" (SW1-OFF) is connected with the indoor unit and the second wired controller set as "Slave" (SW1-ON) via a polarised three-conductor shielded cable (A-B-C).

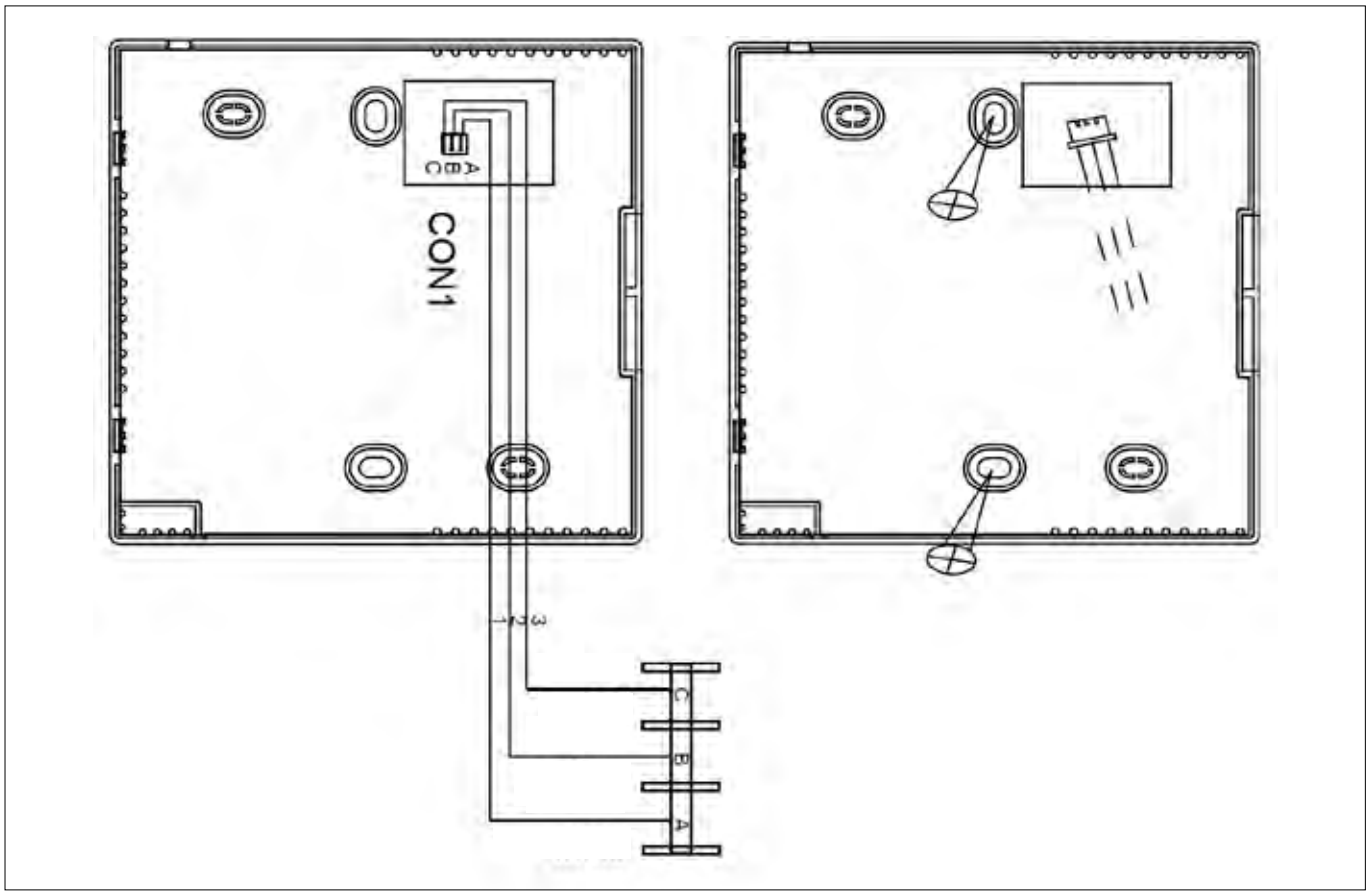
A-B-C communication cable specifications	
Cable length (m)	**Cable section**
<100	3x0.5 mm² + SCH*
≥100 and <200	3x0.5 mm² + SCH*
≥200 and <300	3x0.75 mm² + SCH*
≥300 and <400	3x1.5 mm² + SCH*
≥400 and <500	3x2 mm² + SCH*

Controller wiring

1. First, insert the communication cable into the wall support hole.



2. Fix the support to the wall. Then connect the communication cable to the CON1 port of the wired controller. Finally hook the wired controller by sliding it slightly from top to bottom on the support to complete the installation.



DISPLAY INTERFACE

OPERATION

Meaning SW1 Selection Dip Switches

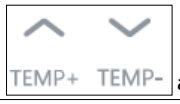
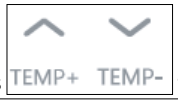
The selection switches are located on the electronic board in the rear of the controller.

SW1	ON	OFF	Default
SW1-1	Wired controller slave	Wired controller master	OFF
SW1-2	Room temperature display	No room temperature display	OFF
SW1-3	Ambient temperature detection from indoor unit sensor	Detection of room temperature from Wired controller	OFF
SW1-4	Restart after power failure disabled	Restart after power failure enabled	OFF
SW1-5	Old protocol (models developed before August 2013)	New protocol	OFF
SW1-6	Backlight always on	Backlight on for 15 seconds in idle conditions.	OFF
SW1-7	Inclination UP/DOWN + inclination LEFT/ RIGHT	Inclination UP/DOWN	OFF
SW1-8	Reserved	Reserved	OFF

4-bit dip switch (SW2)

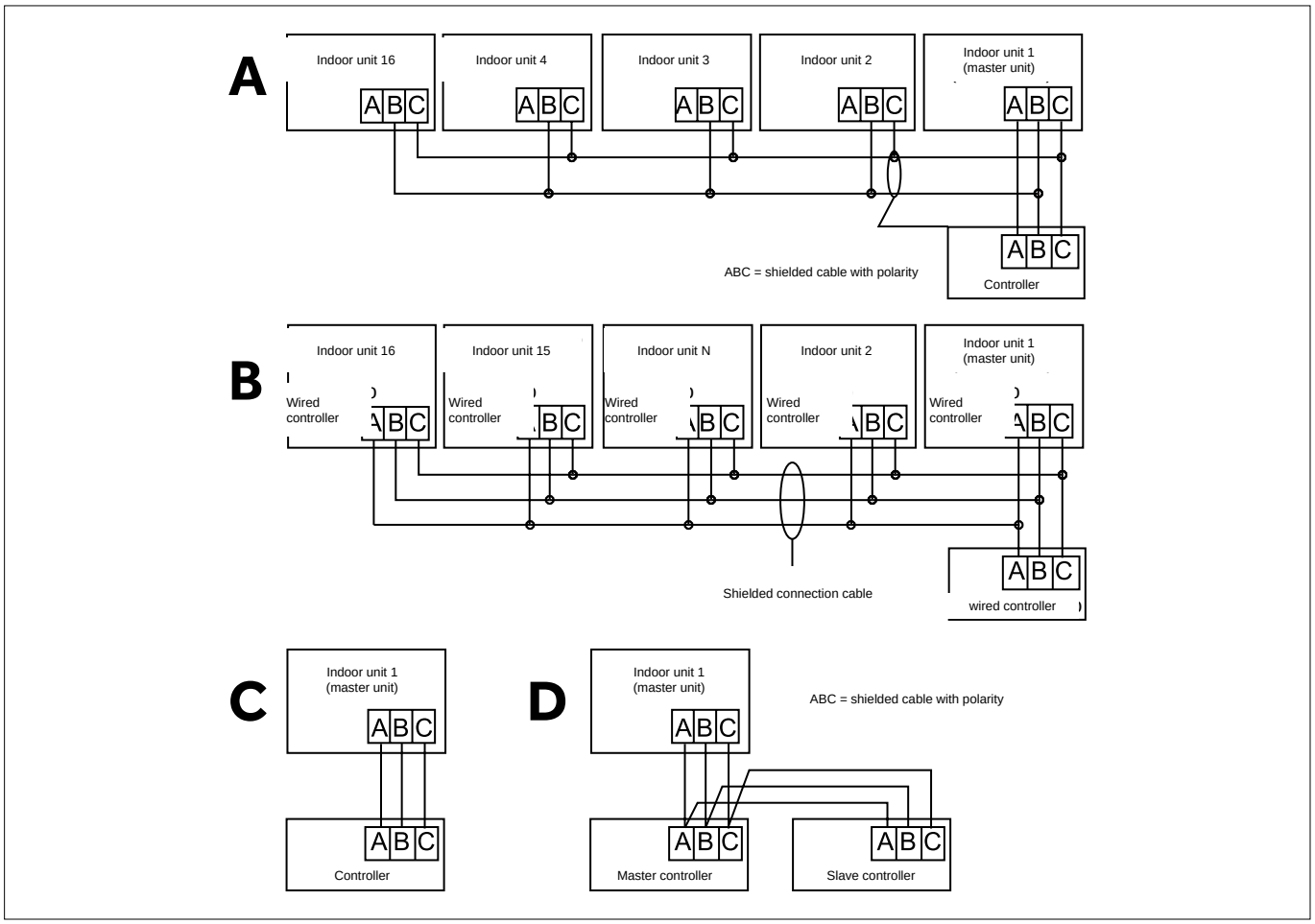
SW2	ON	OFF	Default
SW2-1	MODE key disabled	Normal	OFF
SW2-2	The buzzer does not sound when you press the key (normal buzzer when using the remote controller)	Normal	OFF
SW2-3	Reserved	Reserved	OFF
SW2-4	Reserved	Reserved	OFF

List of special functions

Functions	What to do
Function selection	In ON mode, press  for 5 seconds after turning on the backlight.
Forced cooling	Press  for 5 seconds in cooling mode at OFF state: the buzzer will sound for 2 times and the screen will show the LL symbol.
Forced heating	Press  for 5 seconds in heating mode at OFF state: the buzzer will sound for 2 times and the screen will show the HH symbol.
Child lock	When the device is on (ON), press  simultaneously for 5 seconds to set or cancel the child lock function. When the device is turned off (OFF), press  simultaneously for 5 seconds to set or cancel the child lock after the backlight is turned on. The buzzer will sound for 1 time.
Temperature compensation	With the device off (OFF), press  for 5 seconds after the backlight is turned on, adjust using  and confirm by pressing  .
Error query (error codes)	After the backlight is turned on, press  for 5 s to access the error query condition. Under error query condition, press  for 5 seconds to clear the current error code and history.
Setting wired controller mode	When the device is off (OFF), press  for 10 seconds to access the settings. Then press  to adjust and confirm with  .
Switching from degrees Celsius to degrees Fahrenheit	Adjust the set temperature to 30 degrees Celsius (if the ECO temperature limit is set, adjust to maximum temperature.). Then press  for 15 seconds to switch to degrees Fahrenheit.
Switching from degrees Celsius to degree Fahrenheit	Adjust the set temperature to the lowest value in degrees Fahrenheit (if the ECO temperature limit is set, adjust to minimum temperature). Then press  for 15 seconds to switch to degrees Celsius.

CONTROLLER WIRING

Electrical connections



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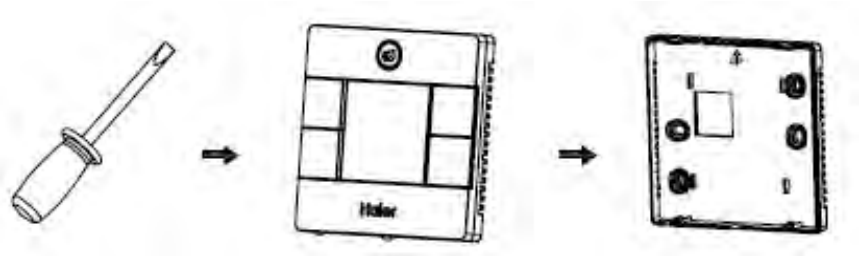
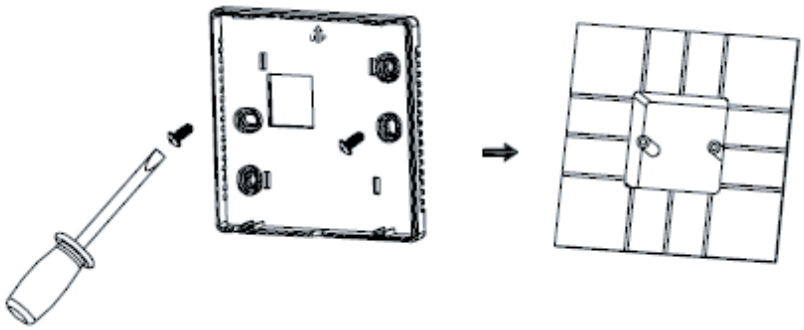
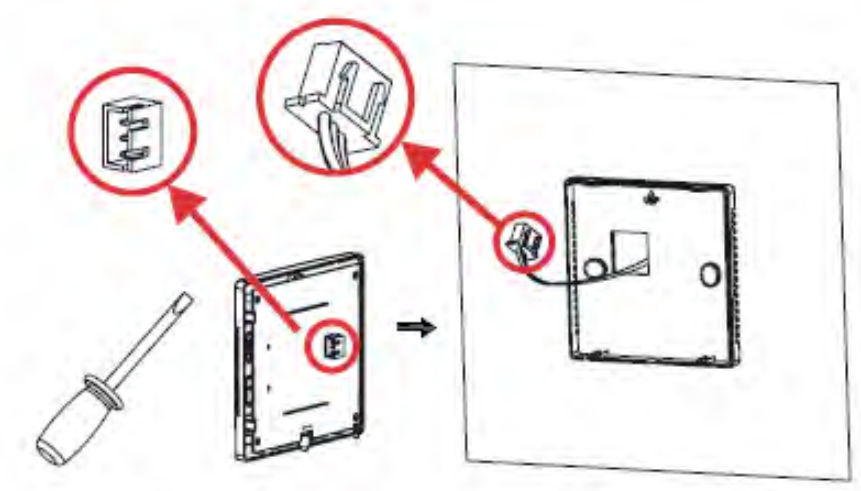
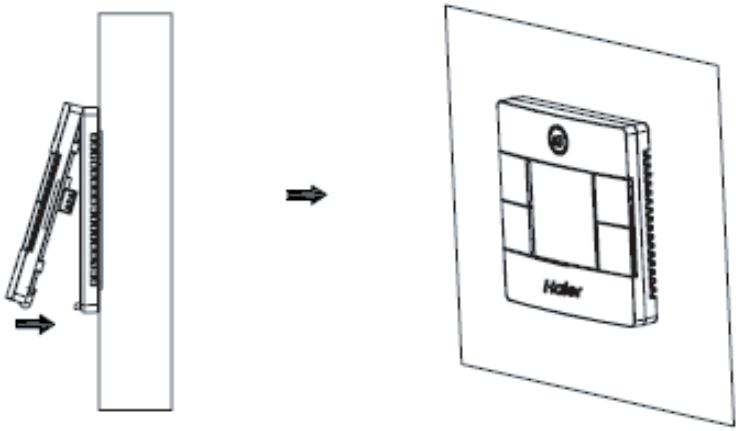
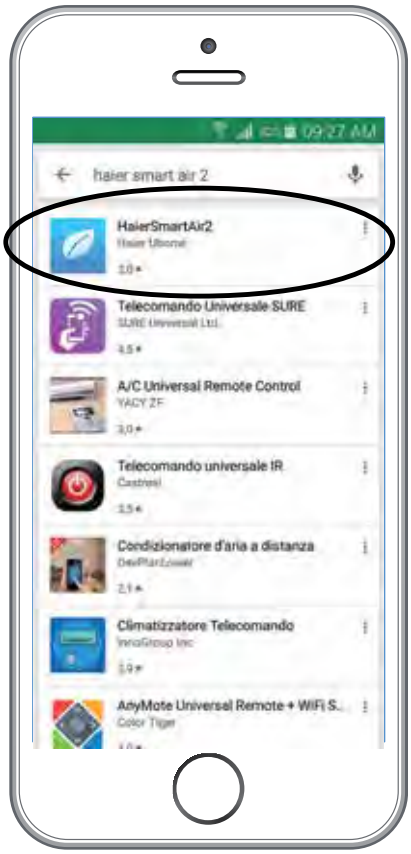
≥300 and <400	3x1.5 mm² + SCH*
≥400 and <500	3x2 mm² + SCH*

INSTRUCTIONS FOR WIRED CONTROLLER CABLING

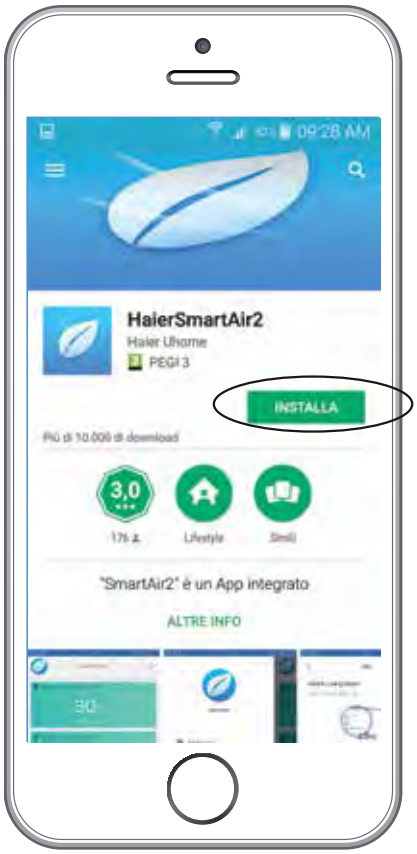
Installation schemes	
1. Use a screwdriver to detach the front panel from the back panel.	
2. Fix the back panel.	
3. Insert the cable connector into the terminal block.	
4. Finally, re-assemble the front panel and the back as illustrated here.	

STEP BY STEP CONFIGURATION GUIDE APPLICATION HAIERSMART2

1



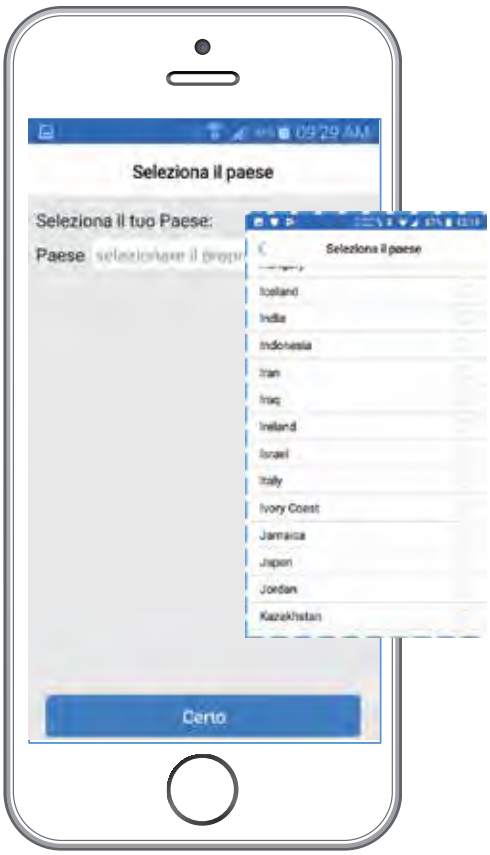
2



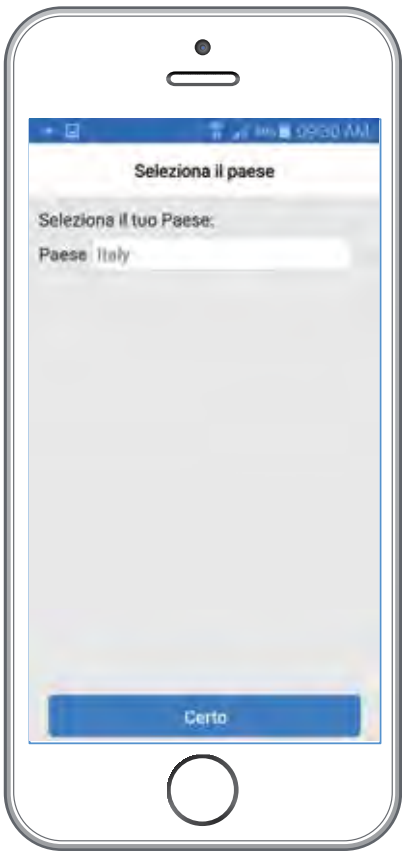
Download the Haier SmartAir2 app from the Google Play or App Store (ver. 2.8.0 or higher)

3

4



5

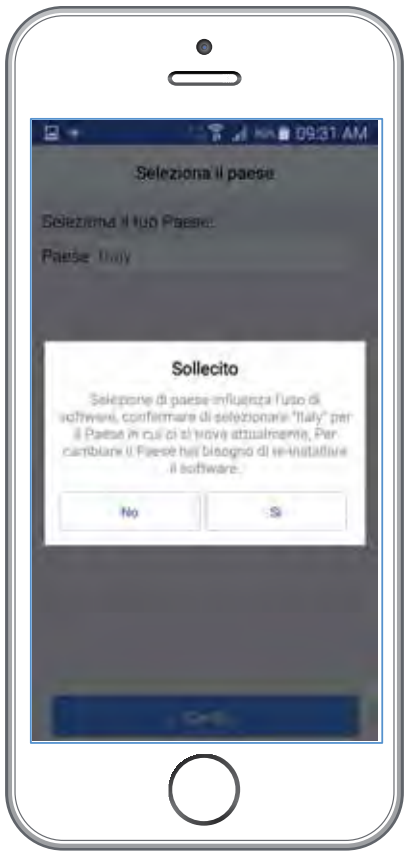


Select your country from the list

Important: Enter the list and select your country

(even if your nationality already appears by default).

6

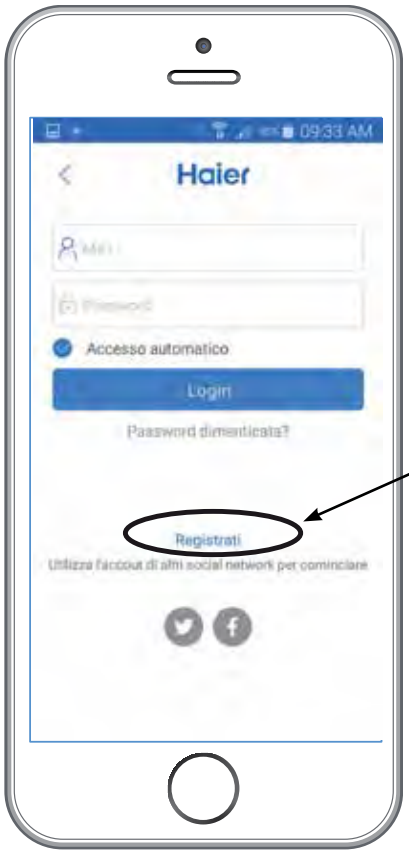


Confirm your country of origin

7

You can use demo mode to understand the various functions.

8

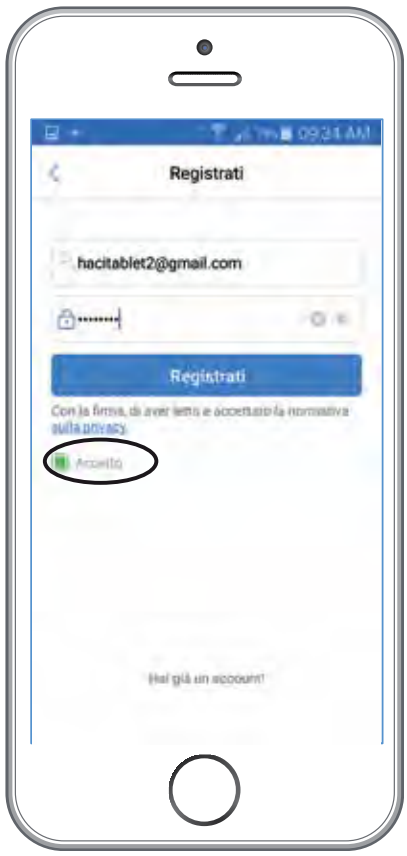


You are prompted to enter your credentials to link an indoor unit.

If this is a new activation, it is necessary to create a new account by clicking the link below.

Accounts generated for older applications are not compatible with this application.

9



Enter a valid email and a password of at least 6 characters.
NB: Do not forget to click on the "Accept" button.

10

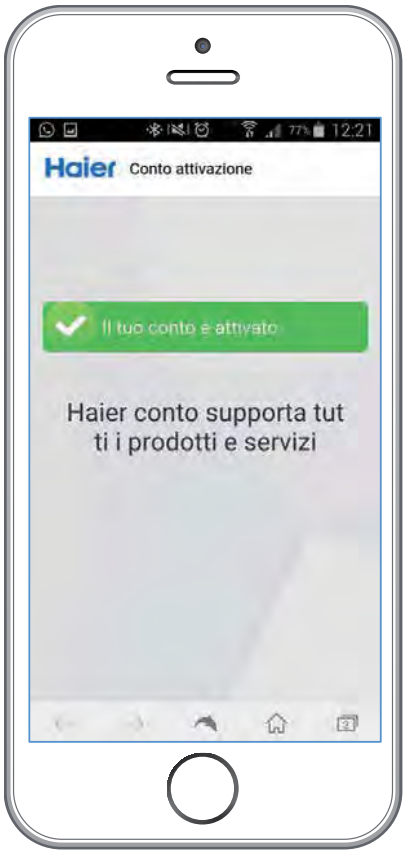
You will receive an email at your address you have indicated before.

NOTE: If you don't receive any email check your junk email box or try using a different email provider such as Gmail, Hotmail, Yahoo, etc.

11

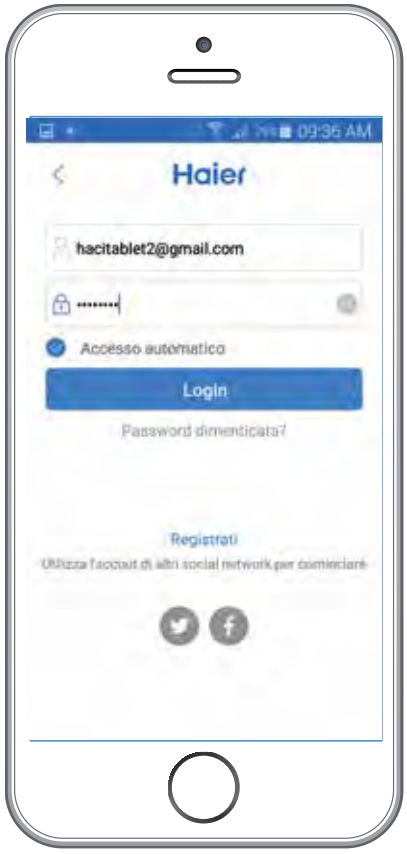
Open the email that was sent to you by Haier and confirm the registration by clicking on the link.

12



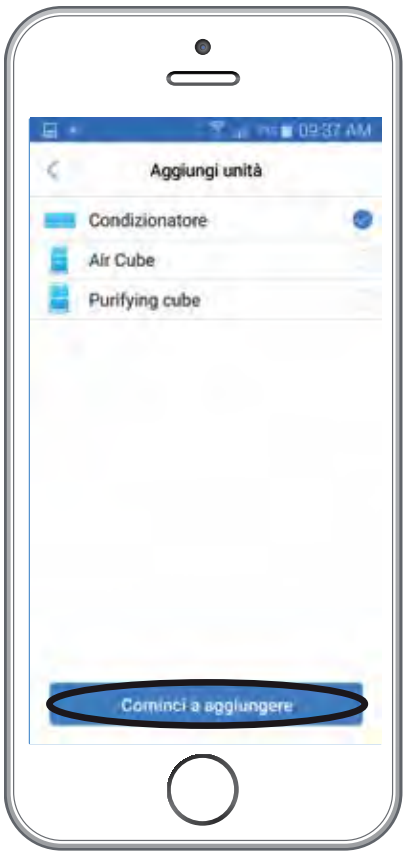
After confirming the link, the following screen will appear confirming that the activation was successful

13



Then enter your credentials in order to proceed and link the air conditioner.

14



Select the line item that corresponds to the product that you want to link.
(default air conditioner)

15

Disconnect the power for about a minute and then reconnect.

16

Restart the air conditioner

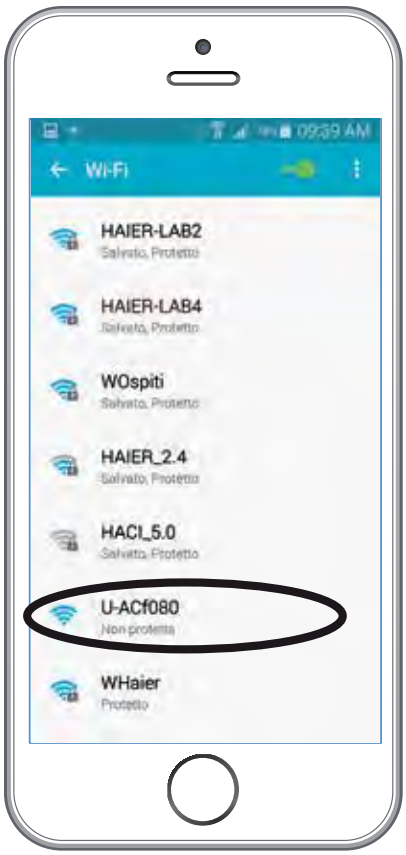
17

Using the remote control, select the "Cooling" mode and set the ventilation to low speed and temperature to 30°C (86°F)

18

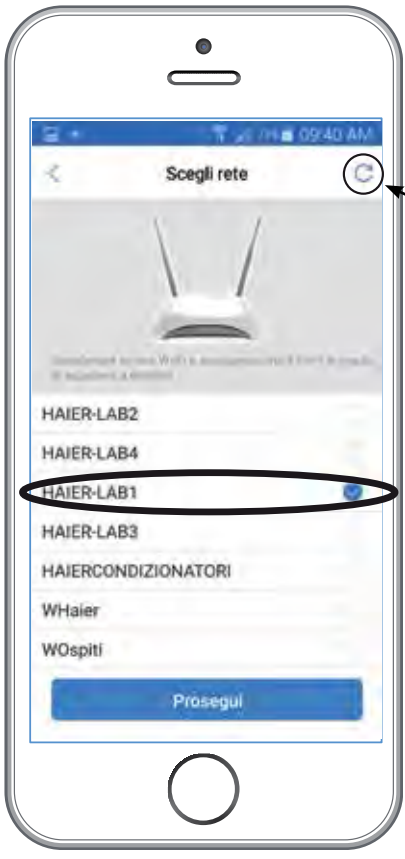
Go to the WIFI network settings page from your mobile phone. Select the "Haier-uAC" or "U-ACxxxx" network.
After selecting the indicated network, return to the Haier smart air 2 application and press "Already connected".

19



EXAMPLE: Search for the various available networks and select the network named "Haier-uAC" or "U-ACxxxx" as in the above case. **It may take a few minutes to locate the aforementioned networks.**

20

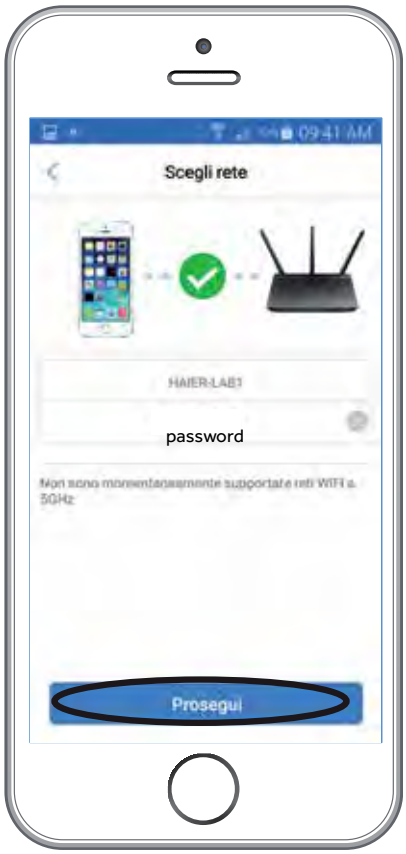


Now select your home Wi-Fi network from the possible networks by checking the box on the right.

ATTENTION:
The networks "HaieruAC" or "U-ACxxxx" do not have access to the internet. Therefore, if the pop up above appears in your smartphone, check the tick box and click "YES".

NB: If your network doesn't appear, try pressing the "Refresh" button.

21



Enter your home Wi-Fi network password

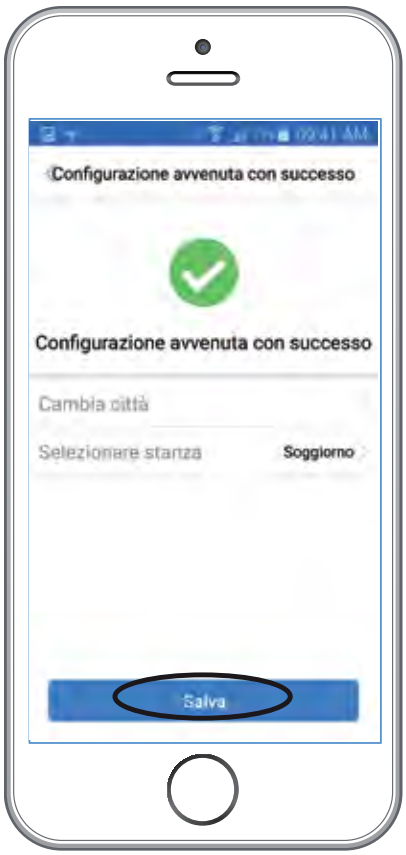
It is also recommended:

- Use only networks of type WPA / WPA2 with 2.4Ghz frequency.
- Make sure that there are no firewalls, otherwise the linking may fail.

22

The indoor unit will be linked within 60 seconds as indicated in the figure.

23



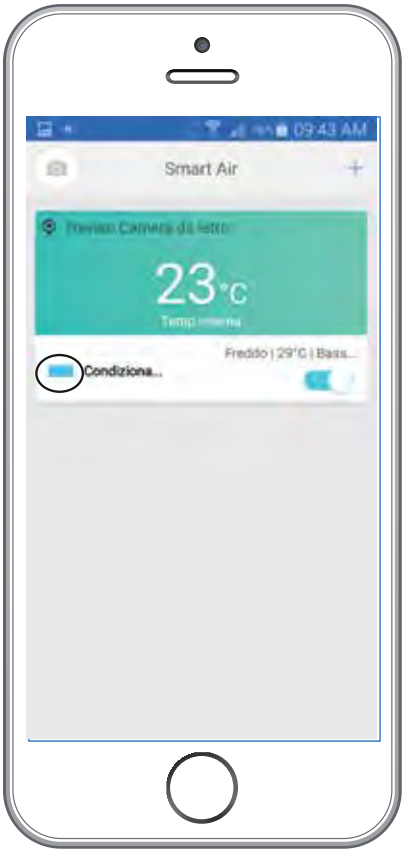
The following screen indicates that the linking was successful.
Select the city and room where the air conditioner is located.

24

Using the highlighted key "+" it is possible to name the room with other names besides those already suggested in the screen.

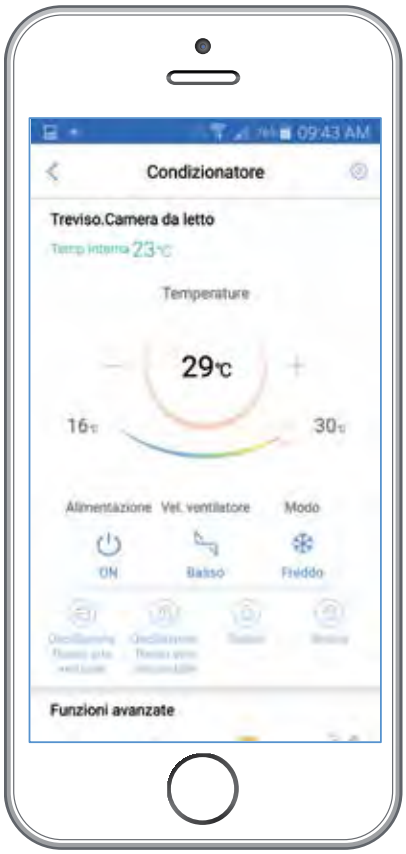
You can change the name of the air conditioner and possibly the location it belongs to later.

25



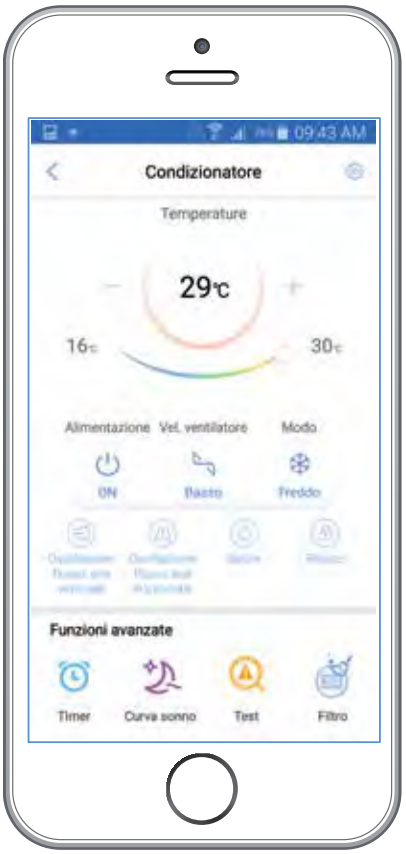
From this moment it is possible to control the air conditioner using this APP.
Press the air conditioner icon to view the available function.

26



The application can control the air conditioner either from within the same WIFI or from outside using the mobile data connection of your smartphone.

27



By means of advanced features you can use the timer function, sleep curve, self-diagnosis tests, and hourly counter for filter cleanup.

NB: It is possible to use the same account and password on different phones to allow multiple users to sign in. Otherwise, you cannot link an air conditioner with several accounts.

ATTENTION

28

29

The wifi modules are distinguished in two types:

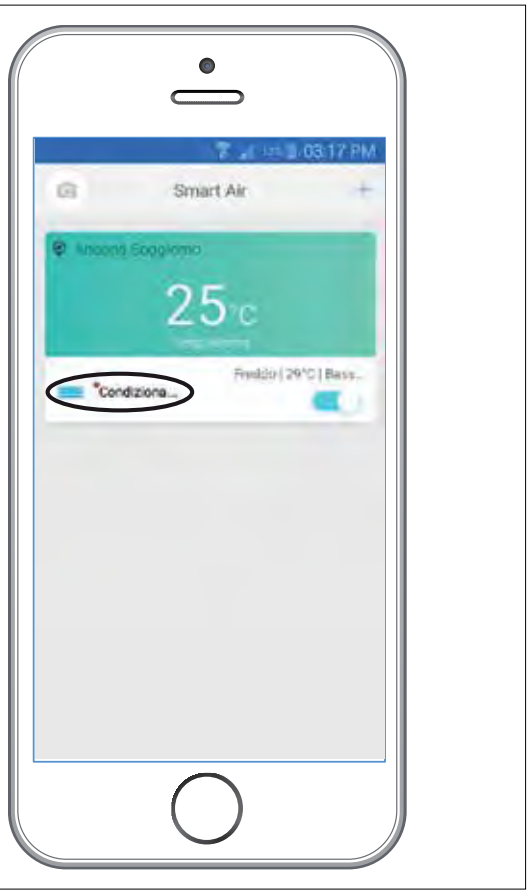
- ***WIFI modules 25033108L / KZW-W001 (fig.28) firmware version G_1.0.00/e_1.0.09 or G_1.0.00/e_1.2.03**
- **USB WIFI modules 2503310AL / KZW-W002 (fig.29) firmware version G_1.0.00/e_1.2.03**

* If WIFi modules 25033108L / KZW-W001 with firmware version **G_1.0.00/e_1.0.09** have never been updated they must be updated to the latest firmware version G_1.0.00/e_1.2.03 as they are no longer compatible with the current application. They can still be updated by downloading the previous application at the following link:

https://fir.im/5v8c?utm_source=fir&utm_medium=qr

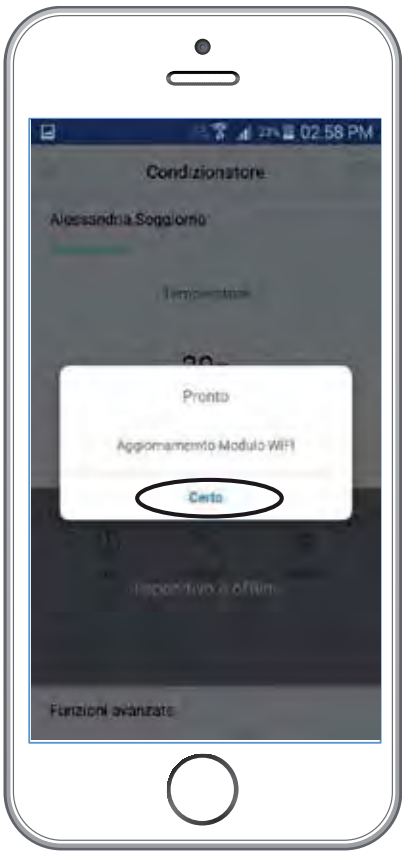
Next, the application will automatically detect the version of the firmware. If you need an update follow the directions from step 30.

30



If a red dot appears above the newly added unit, its WIFI module firmware needs to be updated.
Proceed with the update by pressing on the red dot.

31



NB: If it does not appear immediately, this screen will return to screen No. 30 where you must click on the red dot again.

The following screen indicates that it is possible to proceed with the firmware update by pressing the "Sure" button.

32

The following screen will then appear during the update phase.

33

In conclusion, the following pop up indicates that the update was successful.

Press the "Sure" button to return to the main screen.

34

NOTE: After the update is complete, you can check the actual firmware version by pressing the gear at the top right to access the information screen.

35

36

If a version lower than **G_1.0.00/e1.2.03** is reported (see Figure 36), try exiting the app and restarting your phone.
If you still don't see the latest firmware version (e.g. Figure 35), try unlinking the device, disconnecting the WIFI module for a few minutes, and repeating the pairing procedure from step 14.

REQUIREMENTS FOR CONFIGURING THE HAIER WIFI MODULE

If you are unable to associate an air conditioner to your account, the causes may be the following:

- Firewall Blockage: Verify that there are no firewalls in your network/router.
- Lack of internet access: the network does not have access to the internet.
- Wifi disabled: The wifi function in your smartphone is not active.
- Wifi signal strength must be good and stabl.e

To use the Haier WIFI module you need a smart phone and wireless router. Follow the respective directions:

1. Installing the HAIER SMARTAIR2 application

1) Android operating system must be higher than version 5.0.
2) iOS operating system must be higher than version 6.0 (Not available for I-Pad).

2. The Haier wifi module does not connect to the internet, the reasons can be as follows:

1) Make sure your smartphone and air conditioner are connected to the same wifi:
2) Make sure that the wifi frequency is 2.4 GHz (corresponding to Wi-Fi protocol: IEEE 802.11b, IEEE 802.11g, IEEE 802.11n). The network must be of type WPA or WPA2.
   (Example: Please pay attention that some types of wireless routers use the same SSID name for both 2.4 GHz and 5 GHz.)
3) The length of the wifi name must be between 2- 31 characters.
4) Names of wifi networks with unusual symbols such as "<> () are not supported.

Make sure that the air conditioner can connect to the wireless router

5) The new air conditioner that you want to configure may be blocked by firewalls on your router or by the provider itself, so contact the Internet service provider. Check if the router settings have denied MAC access. If this is the case confirm the access, connect the air conditioner to the wifi router and add the MAC address to the list of allowed addresses (The MAC code is printed on top of the Haier wifi module.)
   Make sure that the air conditioner can connect to the Internet via the wifi router.
6) Use another device to verify internet access. For example, try to connect to Google through a PC.
7) Make sure that your internet connection does not require approvals for third-party access (e.g. public facilities, offices).
   Check the above points, then add the MAC code of the air conditioner to the list of approved devices, otherwise you can not solve problems related to the connection of the wifi module.
8) Make sure that there are no firewalls, otherwise open the following ports:

   gw.haieriot.net
   56802,56803,56808,56601,56602,56881,56711,56712,56692,56611,56612,56691,56701,56702

   uhome.haieriot.net
   80,6000,7260,7250,7263,8470,9080

   wificfm.haieriot.net
   80

If you cannot connect to the internet, there may also be the following reasons:

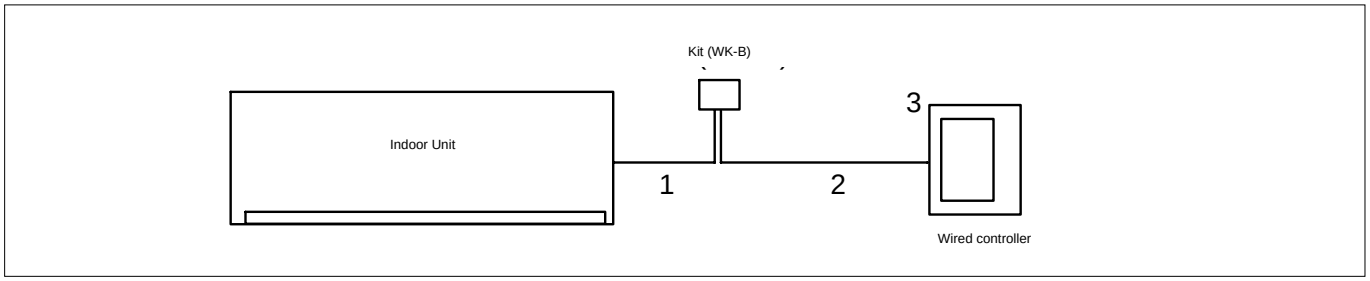
1) The wifi module of the air conditioner is too far from the wifi router.
2) There is a wall, an obstacle or interference that does not allow the passage of the signal between the wifi module and the wireless router.
   For example, the presence of metal structures can disturb or block data transmission.
4) Too many devices connected to the same wifi router.
5) When the signal is transmitted by repeaters and the signal quality is too low.
6) The Internet provider can deny access to certain domains/IPs (for example, how Facebook cannot be used in China).
   In this case, tell your supplier which ports should be opened (see above, paragraph 8).
7) After installing or updating the app, try turning off and turning on your smartphone again.

After configuring the wifi module correctly, if switching to the 3G network via the Haier smartair2 APP results with air conditioner being offline / not online the reasons might be:

1) The air conditioner is offline, disconnected/without power.
2) Verify that your phone can connect to the Internet.
3) Check your wifi connection via a PC or smartphone.
4) Check if the router has changed, especially if you have changed your login password.
5) Try linking the wifi module with the respective network again.
6) Close the application clear the cache, start the application again, and re-enter the account name and password.
7) Some of the Internet service providers cannot connect to the Haier service (due to firewall blocks). If this is the case tell your provider the ports that should be opened (see above, paragraph 8).
8) Update the application if prompted.
9) Try turning off and restarting your smartphone.

WK-B INTERFACE

(To connect the wired controller to a wall unit in series: DAWN, NEBULA, FLAIR, BREZZA,TUNDRA R32



INSTALLATION

Place the interface above or on the side of the split:

Figure 1

Figure 2

Figure 3

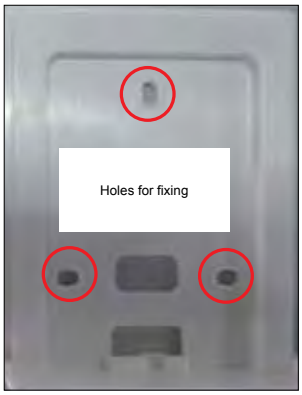
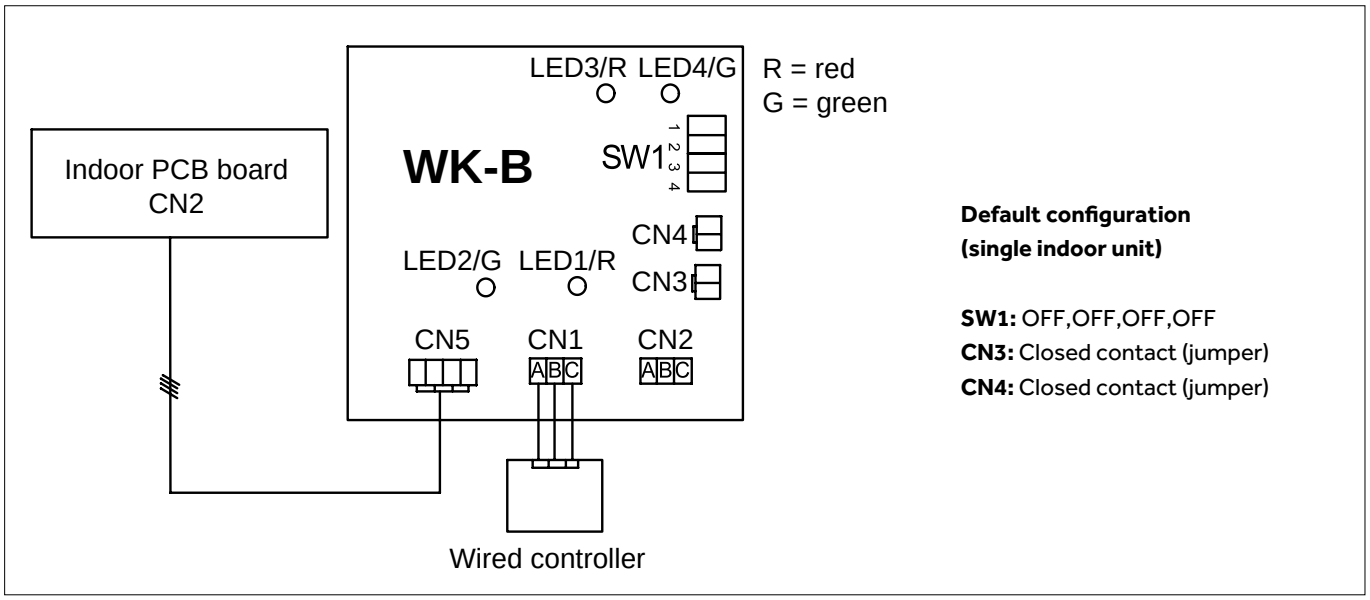


Figure 4

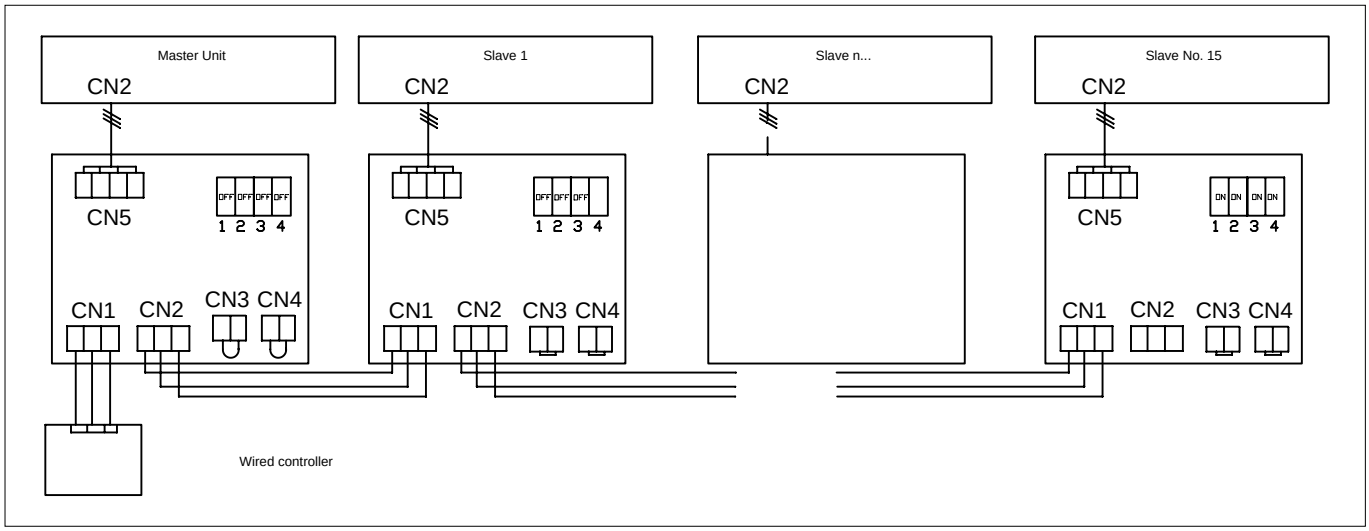
Figure 5

Circuit diagram



Cascading indoor unit configuration

Up to 16 indoor units can be connected



Type	Unit No	SW1 switch position
Master	0	off off off off
Slave	1	off off off on
	2	off off on off
	3	off off on on
	4	off on off off
	5	off on off on
	6	off on on off
	7	off on on on

Type	Unit No	SW1 switch position
Slave	8	on off off off
	9	on off off on
	10	on off on off
	11	on off on on
	12	on on off off
	13	on on off on
	14	on on on off
	15	on on on on

****CN3 AND CN4:** CN3 and CN4 contacts must only be closed on the **MASTER** unit, while they must remain open on all SLAVE units.

LED indication

The operation of LEDs in single unit or cascade mode is the same.

- LED1 indicates power, while LED2 indicates communication. Under normal conditions both LEDs flash continuously. LEDs are not visible with the lid closed.
- LED3 indicates any anomalies. Under normal conditions this LED remains off.
  1 flashing: Communication problem between indoor unit and WK-B interface
  2 flashing: Communication problem between the wired controller and the WK-B interface
- LED4 indicates that the interface is operational. Under normal operating conditions it remains on.

YCJ-A003 INTERFACE

V2. 2009/01/10

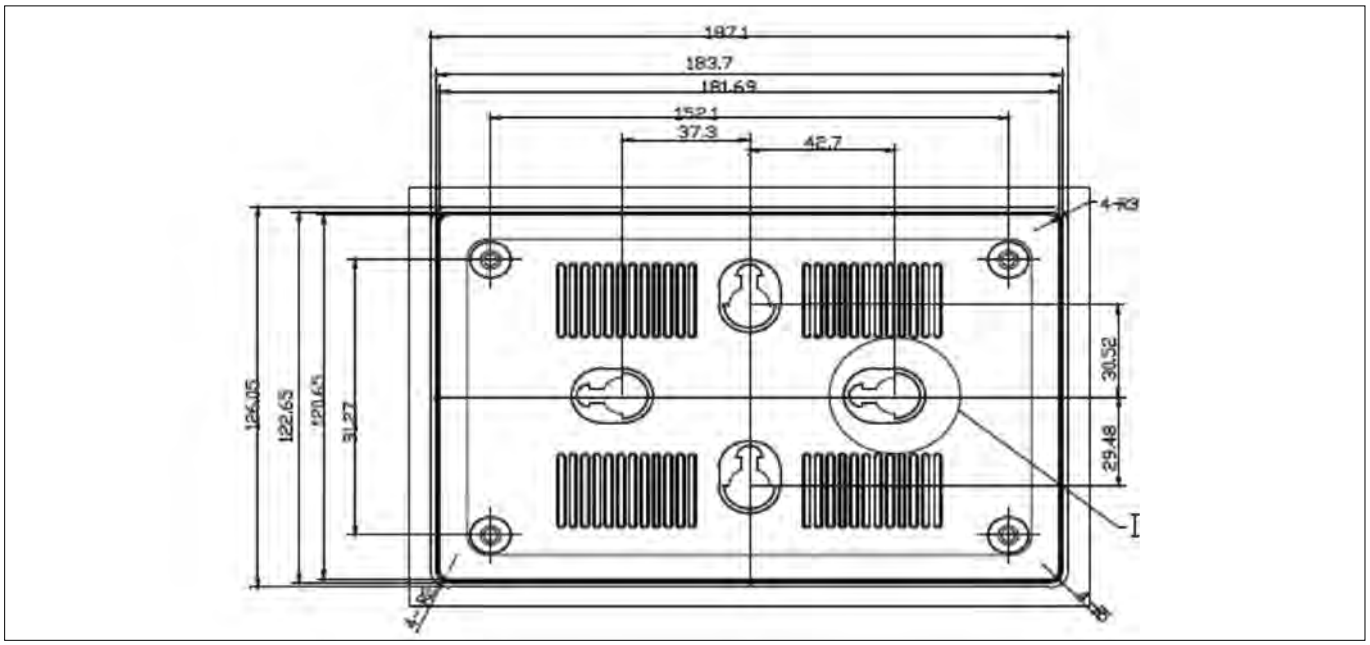
V2. 2011/01/28 (version with alarm delay)

**Check version in the back of the interface

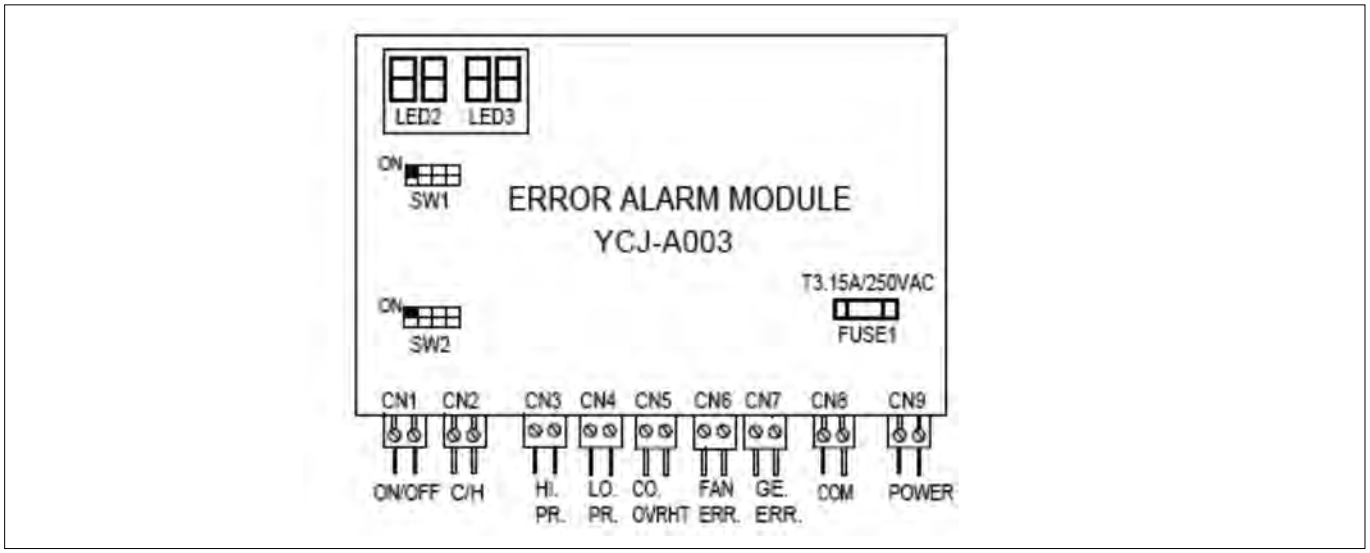
Applicable units: CASSETTE, DUCTED, CEILING/FLOOR CONVERTIBLE

This interface allows you to control the air conditioner remotely and check some types of failures. It can be connected to a Supermatch indoor unit with the following types: CASSETTE, DUCTED, CEILING/FLOOR CONVERTIBLE.

Dimensions:



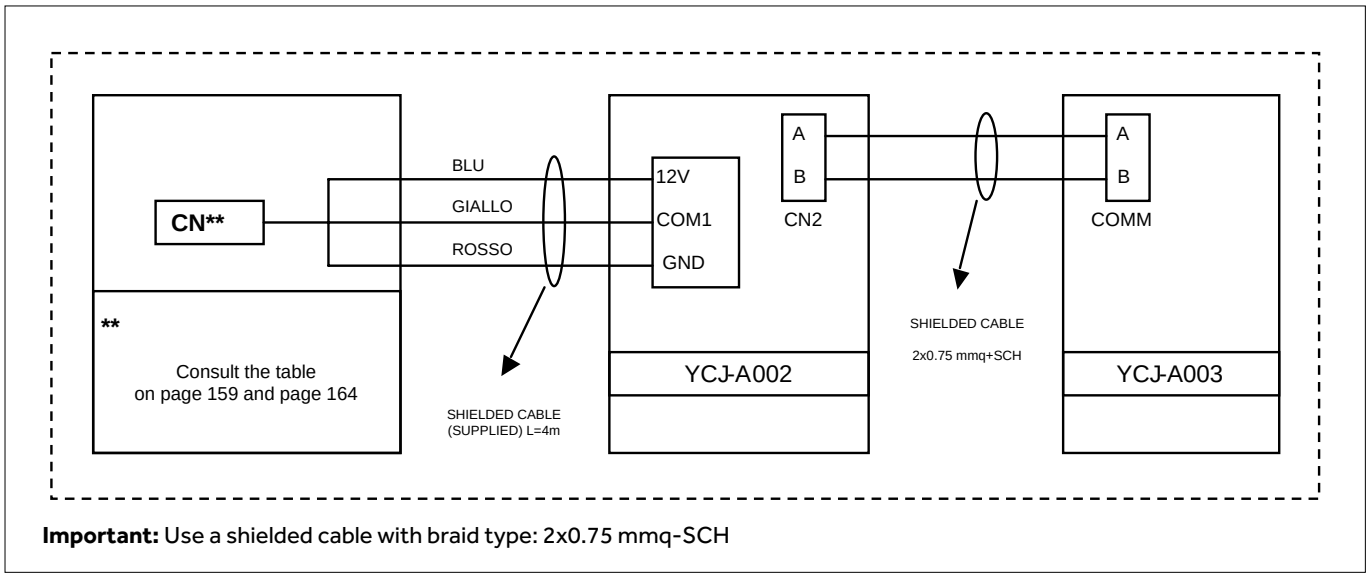
Functional diagram:



YCJ-A003 INTERFACE

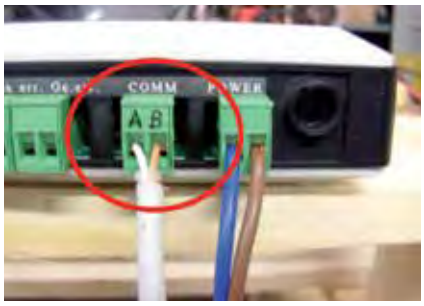
Wiring diagram

To connect the YCJ-A003 interface to an indoor unit, an additional communication interface (YCJ-A002) is required
The connections are as follows:



Important: Use a shielded cable with braid type: 2x0.75 mmq-SCH

Pay attention to the polarity of the cable! Residential wall units have a different connection than the commercial units.
Follow the tables on page 160 or 165.



On the YCJ-A002 interface:

- SW1 switches from 1 to 8 should all be left in OFF.
- when interfaces communicate correctly with the indoor unit, LED 1 (red) and LED 2 (yellow) flash quickly together about twice per second

Display indications:

When the YCJ-A003 interface is on, the number of connected units will appear flashing at intervals of about 20 seconds.

In the event of an anomaly, the number of the unit in alarm status and the code related to the detected fault will appear on the display:

Example: 01 02

Unit number hexadecimal — Alarm code in

Decimal	Hexadecimal
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A
11	B
12	C
13	D
14	E
15	F
16	10
17	11
18	12
19	13
20	14
21	15
22	16

Commands:

The following logical states can be changed by means of a dry ON-OFF external contact:

CN1 port:
CONTACT CLOSED = ON
CONTACT OPEN = OFF

CN2 port:
CONTACT CLOSED = HEAT PUMP
CONTACT OPEN = COOLING

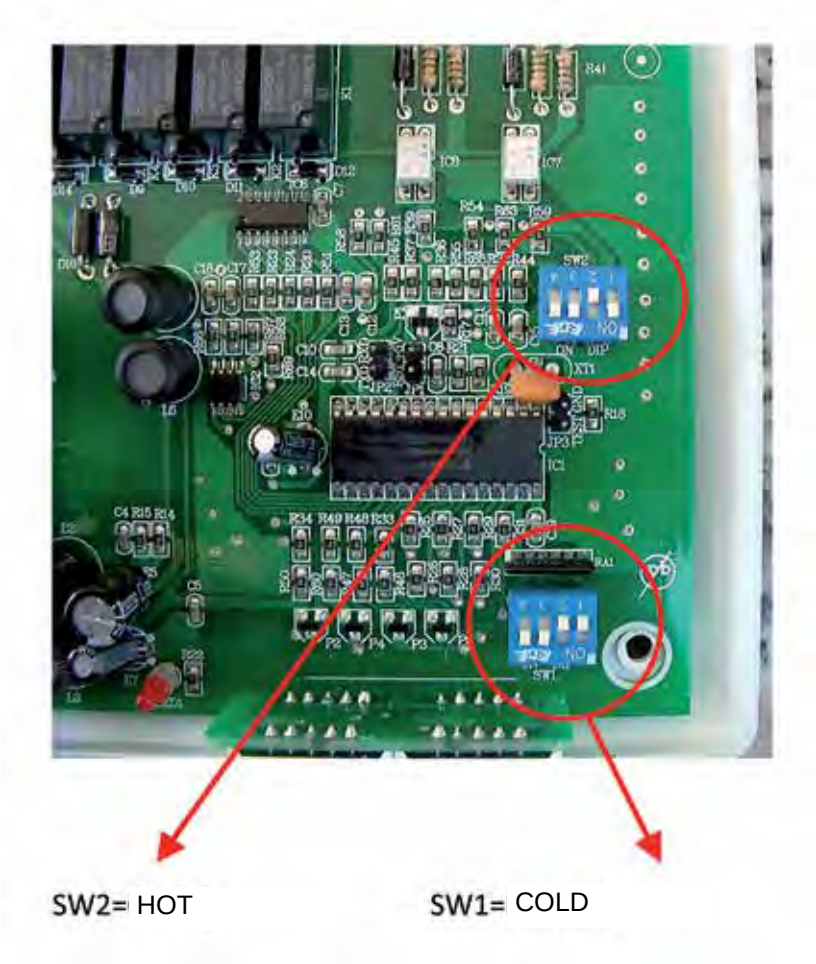
Selecting the operating temperatures:

Through the SW1 AND SW2 switches in the YCJ-A003 interface, you can set the default temperature if you decide to select the heating/cooling mode from the CN2 port:

SW1 = selecting temperature in cooling mode (cold)

SW2 = selecting temperature in heat pump mode (hot)

Temp.°C	SW1 / SW2	4	3	2	1
16	OFF				
	ON	■	■	■	■
17	OFF				■
	ON	■	■	■	
18	OFF			■	
	ON	■	■		■
19	OFF			■	■
	ON	■	■		
20	OFF		■		
	ON	■		■	■
21	OFF		■		■
	ON	■		■	
22	OFF		■	■	
	ON	■			■
23	OFF		■	■	■
	ON	■			
24	OFF	■			
	ON		■	■	■
25	OFF	■			■
	ON		■	■	
26	OFF	■		■	
	ON		■		■
27	OFF	■		■	■
	ON		■		
28	OFF	■	■		
	ON			■	■
29	OFF	■	■		■
	ON			■	
30	OFF	■	■	■	■
	ON				



Input signal description:

CN1=ON/OFF unit on and off (closed contact = ON)

CN2=HEATING/COOLING heating/cooling selection (contact closed = heating)

Output signal description:

CN3 = HIGH PRESSURE: Contact normally open, closes when it goes into high gas pressure alarm;

CN4 = LOW PRESSURE: Contact normally open, closes when it goes into low gas pressure alarm;

CN5 = COMPRESSOR OVERTEMPERATURE: Contact normally open, closes when it goes into overtemperature alarm;

CN6 = FAN FAILURE: Contact normally closed, opens when the outdoor unit fan goes into alarm or the YCJ-A003 interface remains without 220V power supply;

** For version V2.0 - 20110128 the CN6 fan alarm contact is normally open, it closes when the outdoor unit fan goes into alarm or YCJ-A003 interface remains without 220V power supply (with a delay of 10 min)

CN7 - GENERAL ALARM: Contact normally closed, opens in occurrence of one of the alarms that block the machine (see "alarm list") or in the absence of 220V power supply to the YCJ-A003 interface;

** For version V2.0 - 20110128 the CN7 general alarm contact is normally open, closes when one of the alarms that are blocking the machine occurs, or in the absence of 220V power supply to the YCJ-A003 interface (with a delay of 10min)

The CN3, CN4, CN5 ports have an open contact at rest. If a failure occurs the air conditioner will close the reference port.

The CN6 port has a closed contact at rest and in the presence of 230V voltage. Contact opens if there is a fan failure in the outdoor air conditioner unit or lack of power and/or communication with the indoor unit.

The CN7port has a closed contact at rest. It opens in occurrence of any alarm that locks the machine (see "alarm list" reported below).

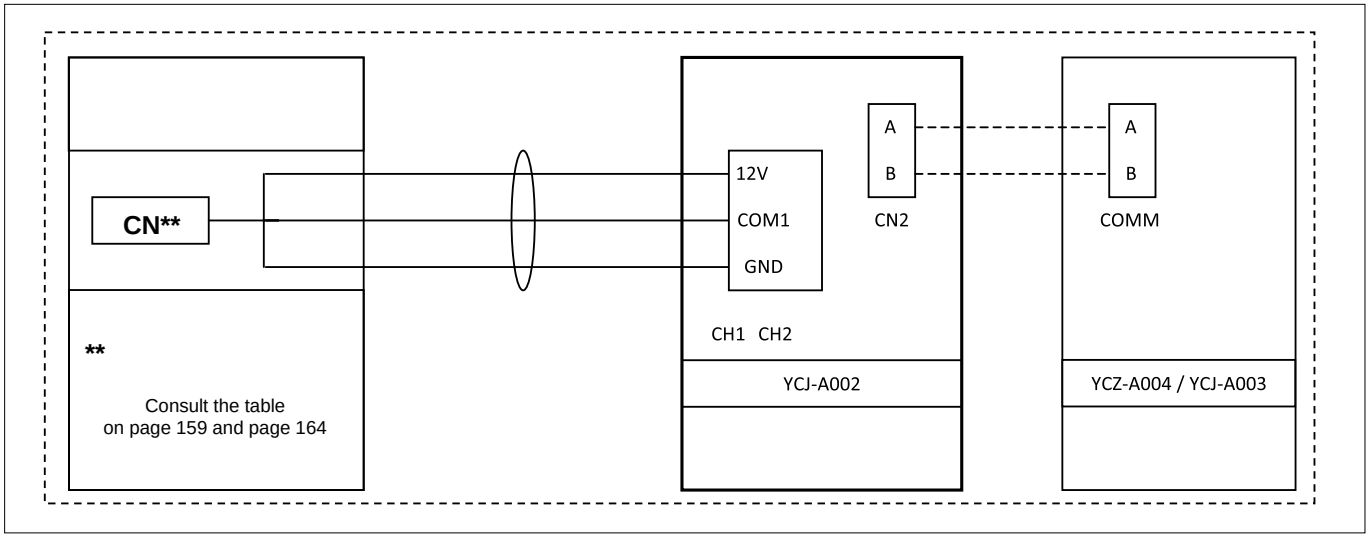
Alarm list:

Alarm code on display	Alarm description	Possible cause
1	Indoor unit ambient sensor failure	Sensor interrupted or short-circuited for 2 minutes
2	Indoor unit heat exchanger sensor failure	Sensor interrupted or short-circuited for 2 minutes
0B	Outdoor unit ambient sensor failure	Sensor interrupted or short-circuited for 2 minutes
0C	Outdoor unit heat exchanger sensor failure	Sensor interrupted or short-circuited for 2 minutes
0A	Outdoor unit overcurrent protection	Overcurrent for 3 times in 30 minutes
0E	High gas pressure	Low pressure switch intervention for 3 times in 30 minutes
16	Power supply out of limits	Phase failure, short circuit or voltage out of limits
5	Lack of communication between indoor and outdoor units	No communication for more than 4 minutes
15	Condensate drain system anomaly	Float failure or contact open for more than 25 minutes
1E	Outdoor alarm	No communication between interfaces YCJ-A003 and YCJ-A002
12	Compressor drain and/or intake sensor failure	Sensor interrupted or short-circuited for 2 minutes
11	EEPROM memory failure	Outdoor unit EEPROM memory failure
1A	Low gas pressure	Low pressure switch intervention
0F	Compressor overtemperature	Compressor drain temperature is greater than 120°C
7	Compressor or SPDU power module failure	Compressor or power module inverter failure
8	Outdoor unit direct current fan failure or system alarm	Faulty fan or abnormal unit operation

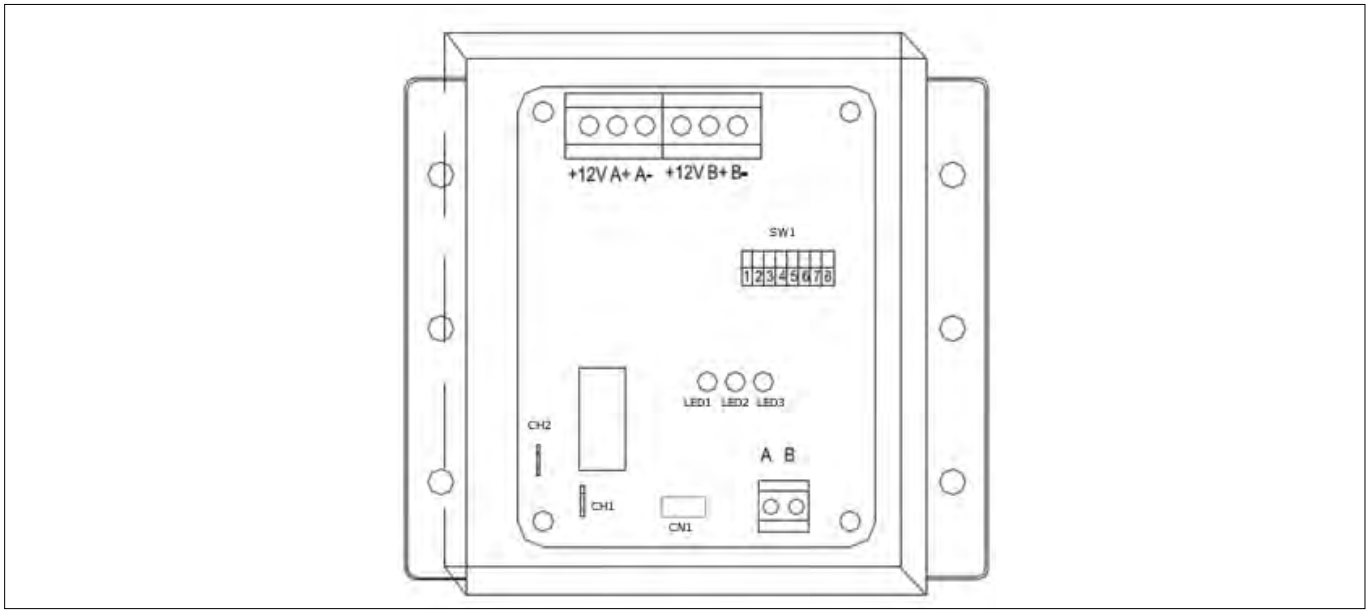
Communication Interface YCJ-A002

The YCJ-A002 interface can be used to:

- connect some indoor units to a centralised controller (e.g. YCZ-A004) or connect units to the interface for remote management (YCJ-A003)
- be connected to an indoor unit and report a possible failure alarm by opening a contact (CH1-CH2)



Pay attention to the polarity of the cable! Residential wall units have a different connection than the commercial units.
Follow the tables on page 160 or 165.



Terminal block * (+12V A+ A-)(COM1): Connect the 3 wires that arrive from the connector connected to the indoor unit to the appropriate terminals.
Terminal block (+12V B+ B-)(COM2): Not used.
Terminal block (A B): Connection terminal block for connection to centralised controller (ES:YCZ-A004) or to remote management interface (YCJ-A003).

CH1 – CH2 (ALARM CONTACT): Contact is closed at rest. If the connected indoor unit has an alarm, the contact CH1 – CH2 will open.

LED1 (Red): Communication with unit A
LED2 (Green): Communication with unit B (not used)
LED3 (Yellow): Communication with centralised controller

Under normal conditions of use, LEDs flash at a frequency of 0.5s. In case of an abnormality the LEDs flash at a frequency of 1s and remain off for 2s.

The YCJ-A002 interface is not compatible with AF__AS1ERA console indoor units and AB__CS2ERA cassettes

YCJ-A002 INTERFACE

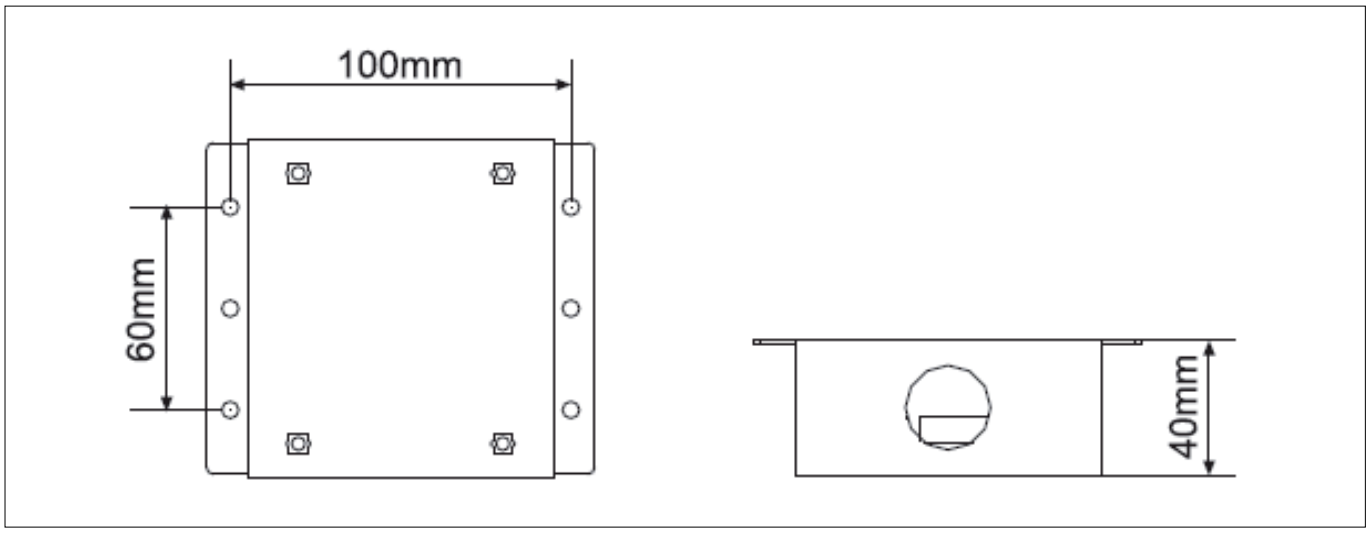
SW1 microswitch bank: Description of switches

SW1								
1	2	3	4	5	6	7	8	Description
0	-	-	-	-	-	-	-	single mode
1	-	-	-	-	-	-	-	dual mode (not used)
-	0	0	0	0	0	0	0	address no.1
-	0	0	0	0	0	0	1	address no.2
-	0	0	0	0	0	1	0	address no.3
-	0	0	0	0	0	1	1	address no.4
-	0	0	0	0	1	0	0	address no.5
-	0	0	0	0	1	0	1	address no.6
-	0	0	0	0	1	1	0	address no.7
-	0	0	0	0	1	1	1	address no.8
-	0	0	0	1	0	0	0	address no.9
-	-	-	-	-	-	-	-	address no...
-	1	1	1	1	1	1	1	Address No. 128

BM1 microswitch bank: Description of switches

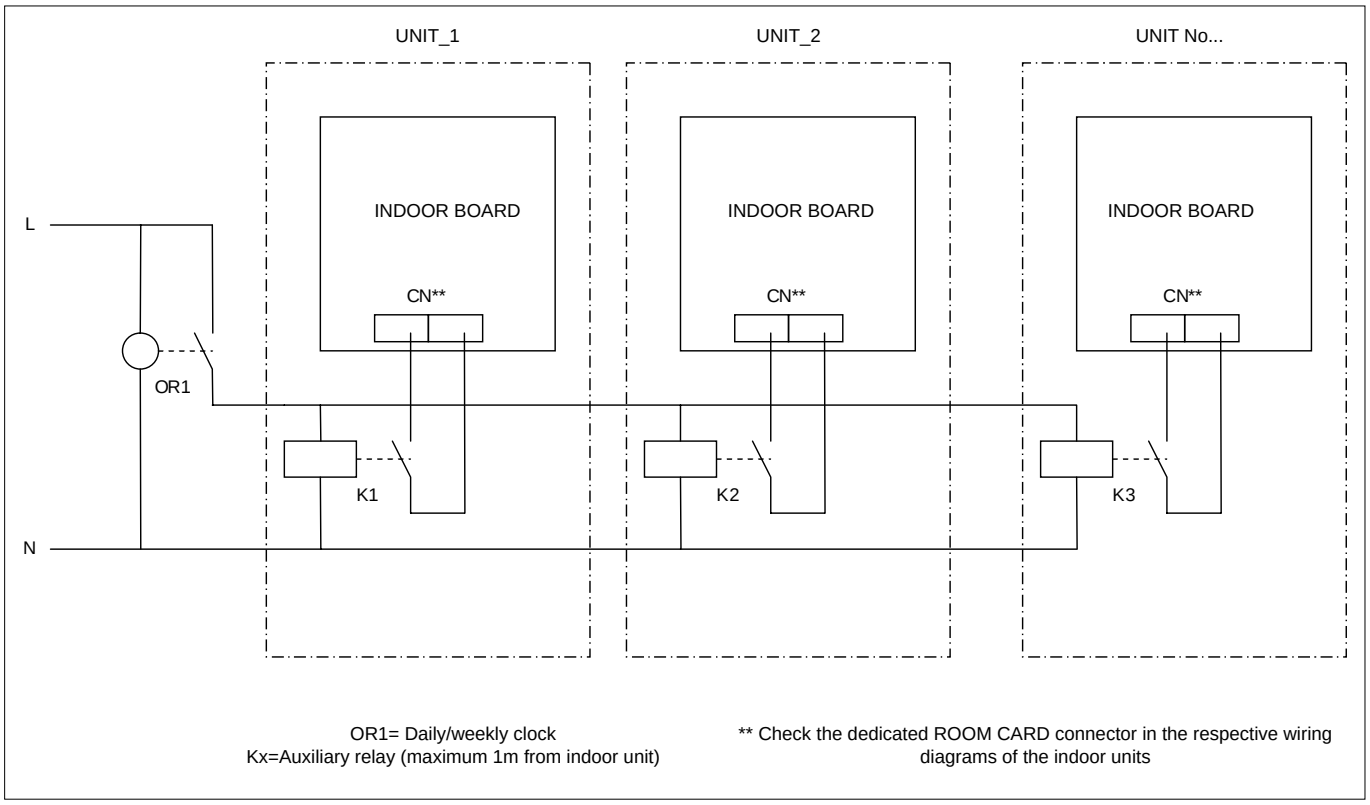
BM1-1	BM1-2	Data transmission mode 485
OFF	OFF	Communication to YCZ-G001 / YCZ-A004 / HC-SA16DBT for mono units
ON	OFF	Communication to YCZ-G001 / YCZ-A004 / HC-SA16DBT for MRV systems
OFF	ON	Modbus RTU protocol
ON	ON	BMS connection

Dimensions



"ROOM-CARD" INPUT CONNECTION DIAGRAM

For indoor units with "Contact On - OFF" function



OR1= Daily/weekly clock
Kx=Auxiliary relay (maximum 1m from indoor unit)

** Check the dedicated ROOM CARD connector in the respective wiring diagrams of the indoor units

CLASSIFICATION OF TEMPERATURE SENSORS

RANGE	SERIES	UNIT TYPE	SENSOR TYPE	SENSOR FEATURES
RESIDENTIAL UNIT	DAWN, NEBULA, TUNDRA 2.0, HEC TIDE, FUTURE, PRIME GOLD, ENERGY ++, GEOS+	INDOOR (AS)	Ambient and pipes	25°C=10kΩ
		OUTDOOR	Outdoor air	25°C=10kΩ
			Pipes	25°C=10kΩ
			Compressor drain	80°C=50kΩ
	JADE FLEXIS FLAIR	INDOOR (AS)	Ambient	25°C=23kΩ
			Pipes	25°C=10kΩ
		OUTDOOR	Outdoor air	25°C=10kΩ
			Pipes	25°C=10kΩ
			Compressor drain	80°C=50kΩ
SUPERMATCH COMMERCIAL INDOOR UNITS	CASSETTE	AB__S2SC1FA ABH___H1ERG ABH___K1ERG	Ambient	25°C=23kΩ
			Pipes	25°C=10kΩ
		AB__S2SG1FA	Ambient and pipes	25°C=10kΩ
	DUCTED	AD__S2SS1FA AD__S2SS2FA AD__S2SM3FA AD__S2SM1FA ADH___H1ERG	Ambient	25°C=23kΩ
			Pipes	25°C=10kΩ
	CONSOLE	AF__S2SD1FA	Ambient	25°C=23kΩ
			Pipes	25°C=10kΩ
	CEILING/FLOOR CONVERTIBLE	AC__S2SG1FA AC__S2SH1FA AC___S2SK1FA	Ambient	25°C=23kΩ
			Pipes	25°C=10kΩ
COMMERCIAL OUTDOOR UNITS	R32	1U__S2SG1FA 1U___S2SN1FA 1U___S2SS1FB 1U___S2SN1FB 2U__S2SM1FA 2U__S2SM1FA 3U__S2SR2FA 4U__S2SR2FA 5U___S2SS2FA 5U___S2SR2FA	Outdoor air	25°C=10kΩ
			Pipes	25°C=10kΩ
			Compressor drain	80°C=50kΩ
	R410A SMART POWER	1UH___N1ERG 1UH___P1ERG 1UH___P1ERK	Outdoor air	25°C=10kΩ
			Pipes	25°C=10kΩ
			Compressor drain	80°C=50kΩ
	R410A CLASSIC	1U__GS1ERA 1U__GS2ERA(S) 1U__HS1ERA(S) 1U__LS1ERB(S) 1U__IS2ERB(S) 1UH___W1ERK	Outdoor air	25°C=10kΩ
			Pipes	25°C=10kΩ
			Compressor drain	80°C=50kΩ

OHMIC VALUES DEPENDING ON TEMPERATURE

R25=23KΩ±2.5% B25/50=4200K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20℃	281.34	32℃	16.65
-19℃	263.56	33℃	15.92
-18℃	247.04	34℃	15.22
-17℃	231.66	35℃	14.56
-16℃	217.35	36℃	13.93
-15℃	204.02	37℃	13.34
-14℃	191.61	38℃	12.77
-13℃	180.04	39℃	12.23
-12℃	169.24	40℃	11.71
-11℃	159.17	41℃	11.22
-10℃	149.77	42℃	10.76
-9℃	140.99	43℃	10.31
-8℃	132.78	44℃	9.89
-7℃	125.11	45℃	9.49
-6℃	117.93	46℃	9.1
-5℃	111.22	47℃	8.74
-4℃	104.93	48℃	8.39
-3℃	99.04	49℃	8.05
-2℃	93.52	50℃	7.73
-1℃	88.35	51℃	7.43
0℃	83.5	52℃	7.14
1℃	78.94	53℃	6.86
2℃	74.67	54℃	6.6
3℃	70.65	55℃	6.34
4℃	66.88	56℃	6.1
5℃	63.33	57℃	5.87
6℃	60	58℃	5.65
7℃	56.86	59℃	5.44
8℃	53.91	60℃	5.24
9℃	51.13		
10℃	48.51		
11℃	46.04		
12℃	43.72		
13℃	41.52		
14℃	39.45		
15℃	37.5		
16℃	35.66		
17℃	33.92		
18℃	32.27		
19℃	30.72		
20℃	29.25		
21℃	27.86		
22℃	26.54		
23℃	25.3		
24℃	24.12		
25℃	23		
26℃	21.94		
27℃	20.94		
28℃	19.99		
29℃	19.09		
30℃	18.23		
31℃	17.42		

R80=50KΩ±3% B25/80=4450K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-30	11600	22	592
-29	10860	23	553.6
-28	10170	24	536.6
-27	9529	25	511.1
-26	8932	26	486.9
-25	8375	27	464
-24	7856	28	442.3
-23	7372	29	421.7
-22	6920	30	402.1
-21	6498	31	383.6
-20	6104	32	366
-19	5736	33	349.3
-18	5392	34	333.5
-17	5071	35	318.4
-16	4770	36	304.1
-15	4488	37	290.5
-14	4225	38	277.6
-13	3978	39	265.3
-12	3747	40	253.6
-11	3531	41	242.5
-10	3328	42	232
-9	3138	43	221.9
-8	2960	44	212.3
-7	2793	45	203.2
-6	2636	46	194.5
-5	2489	47	186.3
-4	2351	48	178.4
-3	2221	49	170.9
-2	2099	50	163.7
-1	1984	51	155.9
0	1877	52	150.4
1	1775	53	144.2
2	1680	54	138.3
3	1590	55	132.7
4	1506	56	127.3
5	1426	57	122.1
6	1351	58	117.2
7	1280	59	112.5
8	1214	60	108
9	1151	61	103.8
10	1092	62	99.68
11	1036		
12	983.2		
13	933.4		
14	886.4		
15	841.9		
16	800		
17	760.8		
18	722.8		
19	687.3		
20	653.8		
21	622		

R25=10KΩ±3% B25/50=3700K±3%			
T(℃)	Rnom(KΩ)	T(℃)	Rnom(KΩ)
-20	90.79	32	7.52
-19	85.72	33	7.23
-18	80.96	34	6.95
-17	76.51	35	6.68
-16	72.33	36	5.43
-15	68.41	37	5.6
-14	64.73	38	5.59
-13	61.27	39	5.73
-12	58.02	40	5.52
-11	54.97	41	5.32
-10	52.1	42	5.12
-9	49.4	43	4.93
-8	46.86	44	4.9
-7	44.46	45	4.58
-6	42.21	46	4.42
-5	40.08	47	4.26
-4	38.08	48	4.11
-3	36.19	49	3.97
-2	34.41	50	3.83
-1	32.73	51	3.7
0	31.14	52	3.57
1	29.64	53	3.45
2	28.22	54	3.33
3	26.4	55	3.22
4	25.61	56	3.11
5	24.41	57	3.11
6	23.27	58	2.9
7	22.2	59	2.81
8	21.18	60	2.72
9	20.21	61	2.63
10	19.3	62	2.54
11	18.43	63	2.49
12	17.61	64	2.38
13	16.83	65	2.3
14	16.09	66	2.23
15	15.38	67	2.16
16	14.71	68	2.09
17	14.08	69	2.03
18	13.48	70	1.96
19	12.9	71	1.9
20	12.36	72	1.85
21	11.84	73	1.79
22	11.34	74	1.73
23	10.87	75	1.68
24	10.43	76	1.63
25	10	77	1.58
26	9.59	78	1.54
27	9.21	79	1.49
28	8.84	80	1.45
29	8.48		
30	8.15		
31	7.83		

PREVIOUS DOCUMENTATION

PRODUCTION YEAR	CATEGORY	LINK QR CODE
2002-2004	ENTRY LINE R407C	
2002-2004	H-MRV R407C	
2004	FREE MULTI R407C	
2004	UNITARY FREE R407C	
2005	X-MULTI R410A	
2004-2007	HIGH LINE WORLD TRADE R410A	
2004-2007	HIGH LINE SMART COOL R410A	
2004-2007	HIGH LINE HV R410A	
2004-2007	HIGH LINE COLOURFUL SCREEN R410A	
2009	UNITARY SMART	
2011	TECHNICAL MANUAL 2011	
2012	TECHNICAL MANUAL 2012	
2013	TECHNICAL MANUAL 2013	
2014	TECHNICAL MANUAL 2014	
2015	TECHNICAL MANUAL 2015	
2016	TECHNICAL MANUAL 2016	
2017	TECHNICAL MANUAL 2017	

PREVIOUS DOCUMENTATION

PRODUCTION YEAR	CATEGORY	LINK QR CODE	
2018	TECHNICAL MANUAL 2018		
2019	TECHNICAL MANUAL 2019		

2020

Haier

air conditioners

REFRIGERANT PRESSURE - TEMPERATURE REGULATION							
Pressure	Temperature °C						
Bar	R32	R410A		R407C		R134A	R290
		BUBBLE	DEW	BUBBLE	DEW		
0	-52.3	-51.7	-51.5	-43.7	-36.7	-26.1	
1	-37.4	-37	-36.8	-28.2	-21.5	-9.9	-42.41
2	-27.7	-27.3	-27.2	-18	-11.5	0.8	-25.45
3	-20.2	-19.9	-19.9	-10.2	-3.8	9	-14.18
4	-14.2	-13.8	-13.8	-3.7	2.5	15.8	-5.47
5	-9.0	-8.6	-8.7	1.8	7.9	21.6	1.73
6	-4.4	-4.1	-4.1	6.7	12.6	26.8	7.92
7	-0.3	0	0	11	16.9	31.4	13.4
8	3.4	3.8	3.7	15	20.8	35.6	18.32
9	6.8	7.2	7.1	18.7	24.3	39.5	22.81
10	9.9	10.3	10.3	22.1	27.6	43.1	26
11	12.9	13.3	13.2	25.3	30.7	46.5	30.79
12	15.6	16.1	16	28.3	33.6	49.6	34.38
13	18.2	18.7	18.6	31.1	36.4	52.6	37.76
14	20.7	21.2	21.1	33.8	39	55.5	40.96
15	23.0	23.5	23.5	36.4	41.5	58.2	43.99
16	25.3	25.8	25.8	38.9	43.8	60.8	46.88
17	27.4	28	27.9	41.2	46.1	63.3	49.64
18	29.5	30	30	43.5	48.3	65.6	52.28
19	31.4	32	32	45.7	50.4	68	54.82
20	33.3	34	33.9	47.8	52.4	70.2	57.26
21	35.2	35.8	35.8	49.8	54.4	72.3	59.61
22	36.9	37.6	37.9	51.8	56.2	74.4	61.88
23	38.7	39.4	39.4	53.7	58.1	76.4	64.08
24	40.3	41	41.1	55.5	59.9	78.4	66.2
25	41.9	42.7	42.7	57.3	61.6	80.3	68.26
26	43.5	44.3	44.3	59.1	63.3	82.1	70.26
27	45.0	45.8	45.9	60.8	64.9	84	72.2
28	46.5	47.3	47.4	62.4	66.5	85.7	74.09
29	48.0	48.8	48.9	64.1	68.1	87.4	75.92
30	49.4	50.3	50.4	65.7	69.6	89.1	77.71
31	50.8	51.7	51.8	67.2	71.1	90.8	79.45
32	52.2	53	53.2	68.7	72.5	92.4	81.15
33	53.5	54.4	54.5	70.2	74	94	82.81
34	54.8	55.7	55.9	71.7	75.4	95.5	84.43
35	56.0	57	57.2	73.1	76.7	97	86
36	57.3	58.3	58.4	74.5	78.1	98.5	87.55
37	58.5	59.5	59.7	75.9	79.4	100	89.05
38	59.7	60.7	60.9	77.2	80.7		90.52
39	60.9	61.9	62.1	78.6	82		
40	62.0	63.1	63.3	79.9	83.2		
41	63.2	64.3	64.5	81.2	84.4		
42	64.5	65.4	65.6	82.4	85.6		
43	65.4	66.5	66.8	83.7	86.8		
44	66.5	67.6	67.9	84.9			
45	67.5	68.7	69	86.1			

direct contact

haier training

Haier A/C (Italy) Trading S.p.A. Unipersonale
Via Marconi, 96 - 31020 Revine Lago TV - Italy - Tel. +39 0438 562511 - Fax +39 0438 562590 - haierhvac.eu