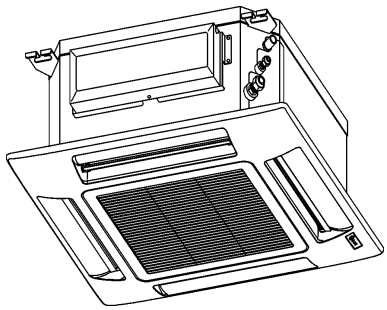
TECHNICAL DATA
& SERVICE MANUAL

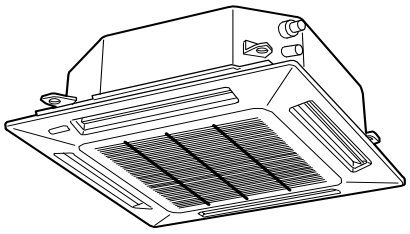
Technibel
UNE AVANCE DANS L'AIR DU TEMPS

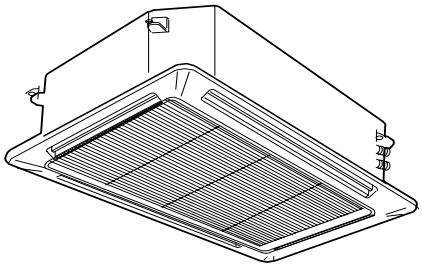
INDOOR UNIT: **CWX3B5XAB**
CWX5B5XAB
CWX6B5XAB
CWX8B5XAB
CWX10B5XAB

SPLIT SYSTEM AIR CONDITIONER

Model No.	Product Code No.
CWX3B5XAB	38.7106.000
CWX5B5XAB	38.7106.001
CWX6B5XAB	38.7106.002
CWX8B5XAB	38.7106.003
CWX10B5XAB	38.7106.004







0.8180.572.1 April 2011

Table of Contents

	Page
1. SPECIFICATIONS	**3**
1-1 Unit specifications	3
1-2 Major Component specifications	8
1-3 Other Component specifications	13
2. DIMENSIONAL DATA	**14**
3. ELECTRICAL DATA	**17**
3-1 Electric Wiring Diagrams	17
3-2 Jumpers Configuration	19
3-3 Contacts for Building Automation	21
3-4 Maintenance	22
4. FUNCTION	**23**
4-1 Cool Mode Operation	23
4-2 Heat Mode Operation	24
4-3 Auto (cool/heat) Mode Operation	25
4-4 Dry Mode Operation	26
4-5 Fan Mode Operation	26
4-6 Auto Fan Speed	26
4-7 Forced Mode	27
4-8 Protection Operation in Heat Mode	27
4-9 I Feel Function	29
4-10 Night Function	29
4-11 Drain Pump Mode	29
4-12 Diagnostic	30
5. CHECKING ELETRICAL COMPONENTS	**31**
5-1 Measurement of Insulation Resistance	31
5-2 Checking Continuity of Fuse on PCB Ass'y	32

1. SPECIFICATIONS

1-1 Unit Specifications

CWX3B5XAB

Power source	230 V - 50 Hz

Performance				
	Input		kW	0,052
	Running Amps		A	0,24
	Total cooling capacity (1)	High/Med./Low	kW	2,6/2,35/2,15
	Sensible cooling capacity (1)	High/Med./Low	kW	2,31/2,09/1,91
	Heating capacity (2)	High/Med./Low	kW	3,49/3,11/2,83
	Air circulation	High/Med./Low	m³/h	520/460/400

Features				
	Controls/Temperature controls			Microprocessor/ I.C. thermostat
	Control unit			Wireless remote control unit
	Timer			ON/OFF 24 hours
	Fan speed			3 and Auto
	Airflow direction			Auto (Remote control)
	Water FLOW in cooling	High/Med./Low	l/h	447/395/360
	Pressure drop on water in cooling (1)	High/Med./Low	kPa	22,0/18,0/15,0
	Pressure drop on water in heating (2)	High	kPa	18
	Air Filter			Washable, polypropylene, class HB (UL94)
	Power noise level	High/Med./Low	dB-A	46/43/40
	Water tubing connections			1/2" gas female
	Air clean filter			Optional
	3-Way valve + By-pass (1/2 gas male, KVS 1,6, 230 NC)			Optional

Dimensions & Weight				
	Dimensions Unit	Height	mm	273
		Width	mm	575
		Depth	mm	575
	Ceiling panel	Height	mm	64
		Width	mm	730
		Depth	mm	730
	Package dimensions Unit	Height	mm	380
		Width	mm	744
		Depth	mm	650
		Volume	m^3	0,18
	Ceiling panel	Height	mm	110
		Width	mm	800
		Depth	mm	800
		Volume	m^3	0,07
	Weight Unit	Net	kg	18,2
		Shipping	kg	22,7
	Ceiling panel	Net	kg	2,50
		Shipping	kg	4,70

DATA SUBJECT TO CHANGE WITHOUT NOTICE

(1) Air inlet 27°C (D.B.) / 19°C (W.B.); Water inlet 7°C; Water outlet 12°C
(2) Air inlet 20°C; Water inlet 50°C (same water capacity as in conditions (1))

OPERATION LIMITS

Min. water inlet temperature 4°C
Max. water inlet temperature 60°C
Max. operating pressure of hydraulic circuit 16 bar
Min. air recirculation temperature 5°C
Max. air recirculation temperature 32°C

CWX5B5XAB

Power source	230 V - 50 Hz

Performance				
	Input		kW	0,087
	Running Amps		A	0,41
	Total cooling capacity (1)	High/Med./Low	kW	4,70/4,10/3,60
	Sensible cooling capacity (1)	High/Med./Low	kW	3,72/3,21/2,80
	Heating capacity (2)	High/Med./Low	kW	5,70/4,85/4,35
	Air circulation	High/Med./Low	m^3/h	750/630/530

Features				
	Controls/Temperature controls			Microprocessor/ I.C. thermostat
	Control unit			Wireless remote control unit
	Timer			ON/OFF 24 hours
	Fan speed			3 and Auto
	Airflow direction			Auto (Remote control)
	Water capacity in cooling	High/Med./Low	l/h	790/690/600
	Pressure drop on water in cooling (1)	High/Med./Low	kPa	42/32/25
	Pressure drop on water in heating (2)	High	kPa	33
	Air Filter			Washable, polypropylene, class HB (UL94)
	Power noise level	High/Med./Low	dB-A	55/51/48
	Water tubing connections			1/2" gas female
	Air clean filter			Optional
	3-Way valve + By-pass (1/2 gas male, KVS 1,6, 230 NC)			Optional

Dimensions & Weight				
	Dimensions Unit	Height	mm	273
		Width	mm	575
		Depth	mm	575
	Ceiling panel	Height	mm	64
		Width	mm	730
		Depth	mm	730
	Package dimensions Unit	Height	mm	380
		Width	mm	744
		Depth	mm	650
		Volume	m^3	0,18
	Ceiling panel	Height	mm	110
		Width	mm	800
		Depth	mm	800
		Volume	m^3	0,07
	Weight Unit	Net	kg	18,2
		Shipping	kg	22,7
	Ceiling panel	Net	kg	2,50
		Shipping	kg	4,70

DATA SUBJECT TO CHANGE WITHOUT NOTICE

(1) Air inlet 27°C (D.B.) / 19°C (W.B.); Water inlet 7°C; Water outlet 12°C
(2) Air inlet 20°C; Water inlet 50°C (same water capacity as in conditions (1))

OPERATION LIMITS

Min. water inlet temperature 4°C
Max. water inlet temperature 60°C
Max. operating pressure of hydraulic circuit 16 bar

Min. air recirculation temperature 5°C
Max. air recirculation temperature 32°C

CWX6B5XAB

Power source	230 V - 50 Hz

Performance				
	Input		kW	0,115
	Running Amps		A	0,5
	Total cooling capacity (1)	High/Med./Low	kW	6,0/5,0/4,20
	Sensible cooling capacity (1)	High/Med./Low	kW	4,70/3,80/3,20
	Heating capacity (2)	High/Med./Low	kW	7,70/6,40/5,40
	Air circulation	High/Med./Low	m³/h	1300/1060/850

Features				
	Controls/Temperature controls			Microprocessor/ I.C. thermostat
	Control unit			Wireless remote control unit
	Timer			ON/OFF 24 hours
	Fan speed			3 and Auto
	Airflow direction			Auto (Remote control)
	Water capacity in cooling	High/Med./Low	l/h	1030/860/720
	Pressure drop on water in cooling (1)	High/Med./Low	kPa	30/19/14
	Pressure drop on water in heating (2)	High	kPa	30,0
	Air Filter			Washable, polypropylene, class HB (UL94)
	Power noise level	High/Med./Low	dB-A	51/44/40
	Water tubing connections			1/2" gas female
	Air clean filter			Optional
	3-Way valve + By-pass (1/2 gas male, KVS 1,6, 230 NC)			Optional

Dimensions & Weight				
	Dimensions (include panel)	Height	mm	338
		Width	mm	860
		Depth	mm	860
	Package dimensions Unit	Height	mm	320
		Width	mm	880
		Depth	mm	840
		Volume	m3	0,238
	Ceiling panel	Height	mm	110
		Width	mm	965
		Depth	mm	965
		Volume	m3	0,1
	Weight (include panel)	Net	kg	22
		Shipping	kg	26
	Ceiling panel	Net	kg	6
		Shipping	kg	8

DATA SUBJECT TO CHANGE WITHOUT NOTICE

(1) Air inlet 27°C (D.B.) / 19°C (W.B.); Water inlet 7°C; Water outlet 12°C
(2) Air inlet 20°C; Water inlet 50°C (same water capacity as in conditions (1))

OPERATION LIMITS

Min. water inlet temperature 4°C
Max. water inlet temperature 60°C
Max. operating pressure of hydraulic circuit 16 bar
Min. air recirculation temperature 5°C
Max. air recirculation temperature 32°C

CWX8B5XAB

Power source	230 V - 50 Hz

Performance				
	Input		kW	0,120
	Running Amps		A	0,5
	Total cooling capacity (1)	High/Med./Low	kW	8,0/6,50/5,50
	Sensible cooling capacity (1)	High/Med./Low	kW	6,40/5,40/4,10
	Heating capacity (2)	High/Med./Low	kW	9,42/8,52/6,28
	Air circulation	High/Med./Low	m³/h	1270/1090/830

Features				
	Controls/Temperature controls			Microprocessor/ I.C. thermostat
	Control unit			Wireless remote control unit
	Timer			ON/OFF 24 hours
	Fan speed			3 and Auto
	Airflow direction			Auto (Remote control)
	Water capacity in cooling	High/Med./Low	l/h	1380/1120/950
	Pressure drop on water in cooling (1)	High/Med./Low	kPa	41/31/23
	Pressure drop on water in heating (2)	High	kPa	39,0
	Air Filter			Washable, polypropylene, class HB (UL94)
	Power noise level	High/Med./Low	dB-A	50/46/37
	Water tubing connections			1/2" gas female
	Air clean filter			Optional
	3-Way valve + By-pass (1/2 gas male, KVS 1,6, 230 NC)			Optional

Dimensions & Weight				
	Dimensions (include panel)	Height	mm	368
		Width	mm	1150
		Depth	mm	860
	Package dimensions Unit	Height	mm	350
		Width	mm	1170
		Depth	mm	840
		Volume	m3	0,35
	Ceiling panel	Height	mm	110
		Width	mm	1250
		Depth	mm	965
		Volume	m3	0,131
	Weight (include panel)	Net	kg	27
		Shipping	kg	32
	Ceiling panel	Net	kg	8
		Shipping	kg	10

DATA SUBJECT TO CHANGE WITHOUT NOTICE

(1) Air inlet 27°C (D.B.) / 19°C (W.B.); Water inlet 7°C; Water outlet 12°C
(2) Air inlet 20°C; Water inlet 50°C (same water capacity as in conditions (1))

OPERATION LIMITS

Min. water inlet temperature 4°C
Max. water inlet temperature 60°C
Max. operating pressure of hydraulic circuit 16 bar
Min. air recirculation temperature 5°C
Max. air recirculation temperature 32°C

CWX10B5XAB

Power source	230 V - 50 Hz

Performance				
	Input		kW	0,180
	Running Amps		A	0,8
	Total cooling capacity (1)	High/Med./Low	kW	9,92/8,09/6,23
	Sensible cooling capacity (1)	High/Med./Low	kW	7,90/6,22/4,62
	Heating capacity (2)	High/Med./Low	kW	11,69/9,53/7,34
	Air circulation	High/Med./Low	m³/h	2300/1700/1200

Features				
	Controls/Temperature controls			Microprocessor/ I.C. thermostat
	Control unit			Wireless remote control unit
	Timer			ON/OFF 24 hours
	Fan speed			3 and Auto
	Airflow direction			Auto (Remote control)
	Water capacity in cooling	High/Med./Low	l/h	1700/1400/1070
	Pressure drop on water in cooling (1)	High/Med./Low	kPa	63/42/26
	Pressure drop on water in heating (2)	High	kPa	60,0
	Air Filter			Washable, polypropylene, class HB (UL94)
	Power noise level	High/Med./Low	dB-A	57/49/43
	Water tubing connections			1/2" gas female
	Air clean filter			Optional
	3-Way valve + By-pass (1/2 gas male, KVS 1,6, 230 NC)			Optional

Dimensions & Weight				
	Dimensions (include panel)	Height	mm	368
		Width	mm	1150
		Depth	mm	860
	Package dimensions Unit	Height	mm	350
		Width	mm	1170
		Depth	mm	840
		Volume	m3	0,35
	Ceiling panel	Height	mm	110
		Width	mm	1250
		Depth	mm	965
		Volume	m3	0,131
	Weight (include panel)	Net	kg	27
		Shipping	kg	32
	Ceiling panel	Net	kg	8
		Shipping	kg	10

DATA SUBJECT TO CHANGE WITHOUT NOTICE

(1) Air inlet 27°C (D.B.) / 19°C (W.B.); Water inlet 7°C; Water outlet 12°C
(2) Air inlet 20°C; Water inlet 50°C (same water capacity as in conditions (1))

OPERATION LIMITS

Min. water inlet temperature 4°C
Max. water inlet temperature 60°C
Max. operating pressure of hydraulic circuit 16 bar
Min. air recirculation temperature 5°C
Max. air recirculation temperature 32°C

1-2 Major Component Specifications

CWX3B5XAB

Controller PCB				
Part No.				SAC ON-OFF IDU
Controls				Microprocessor
Control circuit fuse				250 V - 3,15 A
Jumper setting JP1..JP5				2,54mm-5pcs

Remote Control Unit				SAC W-REM

Fan & Fan Motor				
Type				Centrifugal fan
Q'ty ……. Dia. and lenght			mm	1…. Ø 280 / L 175
Fan motor model…Q'ty				K35406 M01971 …1
No. of poles…rpm (230 V, High / 2nd / 3rd / Low)				4… 630 / 570 / 510 / 240
Running Amps			A	0,16
Power input			W	33
Coil resistance (Ambient temp. 20 °C)			Ω	BLU-BRN: 57,5÷66,2 BLU-BLK: 795÷914 BLK-GRY: 70,1÷80,7 GRY-RED: 70,1÷80,7 RED-WHT/YEL: 228÷262
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	150 ± 10
		Close		Automatic
Run capacitor			µF	1,5
			VAC	400

Flap Motor		
Type		Stepping motor
Model		MP24Z2
Rating		DC 12 V
Coil resistance (Ambient temp. 25 °C)	Ω	400 ± 7%

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		1
Fin pitch	mm	1,3
Face area	m^2	0,272
Quantity of water	l	0,43

DATA SUBJECT TO CHANGE WITHOUT NOTICE

CWX5B5XAB

Controller PCB	
Part No.	SAC ON-OFF IDU
Controls	Microprocessor
Control circuit fuse	250 V - 3,15 A
Jumper setting JP1..JP5	2,54mm-5pcs

Remote Control Unit	SAC W-REM

Fan & Fan Motor				
Type				Centrifugal fan
Q'ty ……. Dia. and lenght			mm	1…. Ø 280 / L 175
Fan motor model…Q'ty				K35407-MO1972 …1
No. Of poles…rpm (230 V, High/Med/Low/LowLow)				4… 880/740/660/290
Running Amps			A	0,27
Power input			W	61
Coil resistance (Ambient temp. 20 °C)			Ω	BLU-BRN: 33,9 ÷ 39,1 BLU-BLK: 325 ÷ 374 BLK-GRY: 78,7 ÷ 90,5 GRY-RED: 49,7 ÷ 57,2 RED-WHT/YEL: 155 ÷ 178
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	150 ± 10
		Close	°C	Automatic reclosing
Run capacitor			µF	2,0
			VAC	440

Flap Motor		
Type		Stepping motor
Model		MP24Z2
Rating		DC 12 V
Coil resistance (Ambient temp. 25 °C)	Ω	400 ± 7%

Heat Exch. Coil		
Coil		Aluminium plate fin / Copper tube
Rows		1
Fin pitch	mm	1,3
Face area	m^2	0,272
Quantity of water	l	0,86

DATA SUBJECT TO CHANGE WITHOUT NOTICE

CWX6B5XAB

Controller PCB				
	Part No.			SAC ON-OFF IDU
	Controls			Microprocessor
	Control circuit fuse			250 V - 3,15 A
	Jumper setting JP1..JP5			2,54mm-5pcs

Remote Control Unit				SAC W-REM

Fan & Fan Motor				
	Type			Centrifugal fan
	Q'ty ……. Dia. and lenght		mm	1…. Ø 443
	Fan motor model…Q'ty			SFG6X-41D6P…1
	No. Of poles…rpm (230 V, High)			6 … 470
	Running Amps		A	0,611
	Power input		W	31,4
	Coil resistance (Ambient temp. 20 °C)		Ω	BRN-WHT: 170,3 WHT-VLT: 18,1 VLT-ORG: 43,2 ORG-YEL: 43,2 WHT-PNK: 83,5 YEL-BLK: 60,2
	Safety devices	Type		Internal thermal protector
		Operating temp. Open	°C	130 ± 8
		Close	°C	79 ± 15
	Run capacitor		µF	4,5
			VAC	450

Flap Motor			
	Type		Stepping motor
	Model		MP24Z2
	Rating		DC 12 V
	Coil resistance (Ambient temp. 25 °C)	Ω	400 ± 7%

Heat Exch. Coil			
	Coil		Aluminium plate fin / Copper tube
	Rows		2
	Fin pitch	mm	1,5
	Face area	m^2	0,343
	Quantity of water	l	1,00

DATA SUBJECT TO CHANGE WITHOUT NOTICE

CWX8B5XAB

Controller PCB				
	Part No.			SAC ON-OFF IDU
	Controls			Microprocessor
	Control circuit fuse			250 V - 3,15 A
	Jumper setting JP1..JP5			2,54mm-5pcs

Remote Control Unit				SAC W-REM

Fan & Fan Motor				
	Type			Centrifugal fan
	Q'ty ……. Dia. and lenght		mm	1…. Ø 443
	Fan motor model…Q'ty			SFG6X-81A6P…1
	No. Of poles…rpm (230 V, High)			6 … 530
	Running Amps		A	0,765
	Power input		W	38
	Coil resistance (Ambient temp. 20 °C)		Ω	BRN-WHT: 75,1 WHT-VLT: 6,7 VLT-ORG: 20,6 ORG-YEL: 27,4 WHT-PNK: 42,7 YEL-BLK: 58
	Safety devices	Type		Internal thermal protector
		Operating temp. Open	°C	130 ± 8
		Close	°C	79 ± 15
	Run capacitor		µF	4,5
			VAC	450

Flap Motor			
	Type		Stepping motor
	Model		MP24Z2
	Rating		DC 12 V
	Coil resistance (Ambient temp. 25 °C)	Ω	400 ± 7%

Heat Exch. Coil			
	Coil		Aluminium plate fin / Copper tube
	Rows		2
	Fin pitch	mm	1,5
	Face area	m^2	0,556
	Quantity of water	l	1,50

DATA SUBJECT TO CHANGE WITHOUT NOTICE

CWX10B5XAB

Controller PCB				
Part No.				SAC ON-OFF IDU
Controls				Microprocessor
Control circuit fuse				250 V - 3,15 A
Jumper setting JP1..JP5				2,54mm-5pcs

Remote Control Unit				SAC W-REM

Fan & Fan Motor				
Type				Centrifugal fan
Q'ty ……. Dia. and lenght			mm	1…. Ø 443
Fan motor model…Q'ty				SFG6X-81A6P…1
No. Of poles…rpm (230 V, High)				6 … 530
Running Amps			A	0,765
Power input			W	38
Coil resistance (Ambient temp. 20 °C)			Ω	BRN-WHT: 75,1 WHT-VLT: 6,7 VLT-ORG: 20,6 ORG-YEL: 27,4 WHT-PNK: 42,7 YEL-BLK: 58
Safety devices	Type			Internal thermal protector
	Operating temp.	Open	°C	130 ± 8
		Close	°C	79 ± 15
Run capacitor			µF	6
			VAC	450

Flap Motor			
Type			Stepping motor
Model			MP24Z2
Rating			DC 12 V
Coil resistance (Ambient temp. 25 °C)		Ω	400 ± 7%

Heat Exch. Coil			
Coil			Aluminium plate fin / Copper tube
Rows			2
Fin pitch		mm	1,5
Face area		m^2	0,556
Quantity of water		l	1,50

DATA SUBJECT TO CHANGE WITHOUT NOTICE

1-3 Other Component Specifications

CWX3B5XAB CWX5B5XAB

Thermistor (Coil sensor TH1)			
	Resistance	KΩ	10 ± 3%

Drain pump			
	Model		PC 309564003
	Rating	Voltage	220/240V - 50Hz
		Input	14W
	Total head capacity		0,4 l/min

Safety float switch		
Model		BI 1300 2725
Contact rating		230V AC/DC - 0,5A

CWX6B5XAB CWX8B5XAB CWX10B5XAB

Thermistor (Room sensor)			**NTC-THERMISTOR**
	Resistance	kΩ	10 at 25 °C

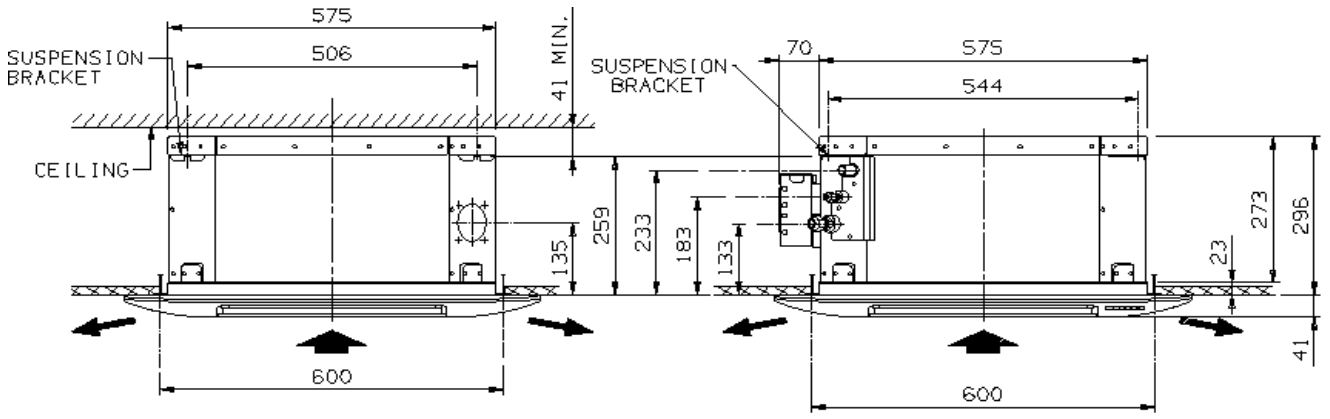
Thermistor (Coil sensor)			**NTC-THERMISTOR**
	Resistance	kΩ	10 at 25 °C

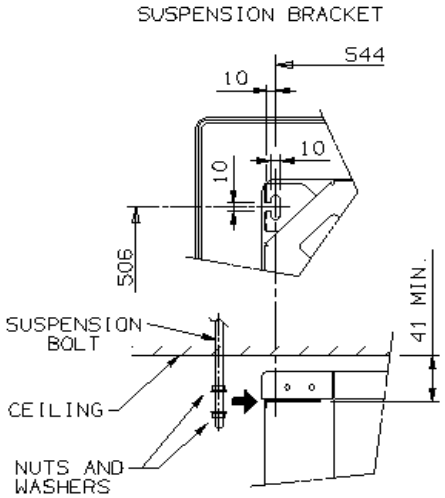
Drain pump			
	Model		PJV-1434A
	Rating	Voltage	230V
		Input	12W
	Total head / capacity		500 mm / 400 cc/min.

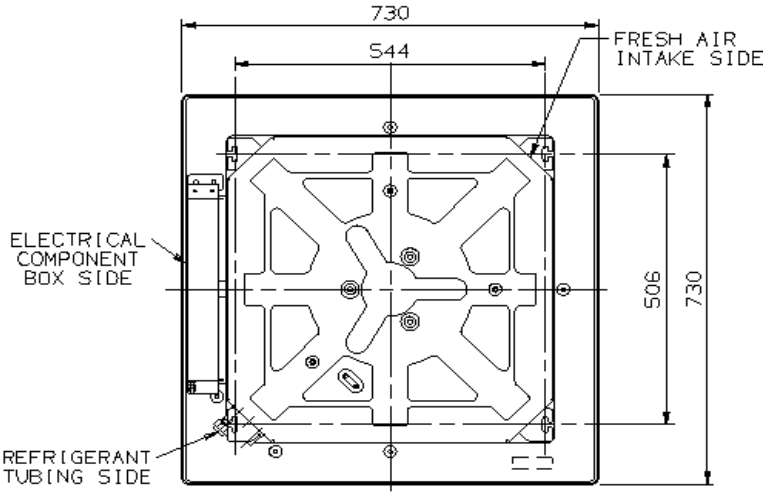
Safety float switch		
Model		FS-0218-102
Contact rating		DC 5V - 50W

2. DIMENSIONAL DATA

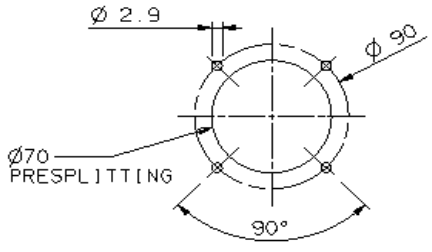
CWX3B5XAB **CWX5B5XAB**



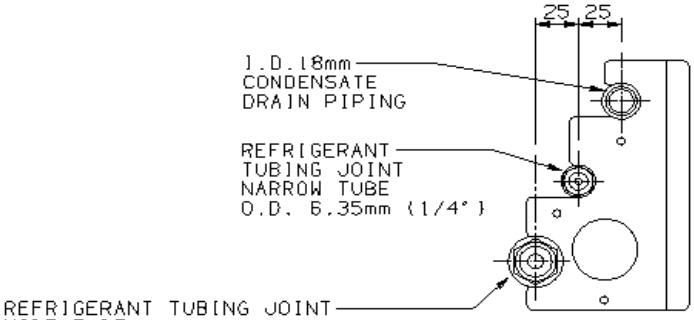




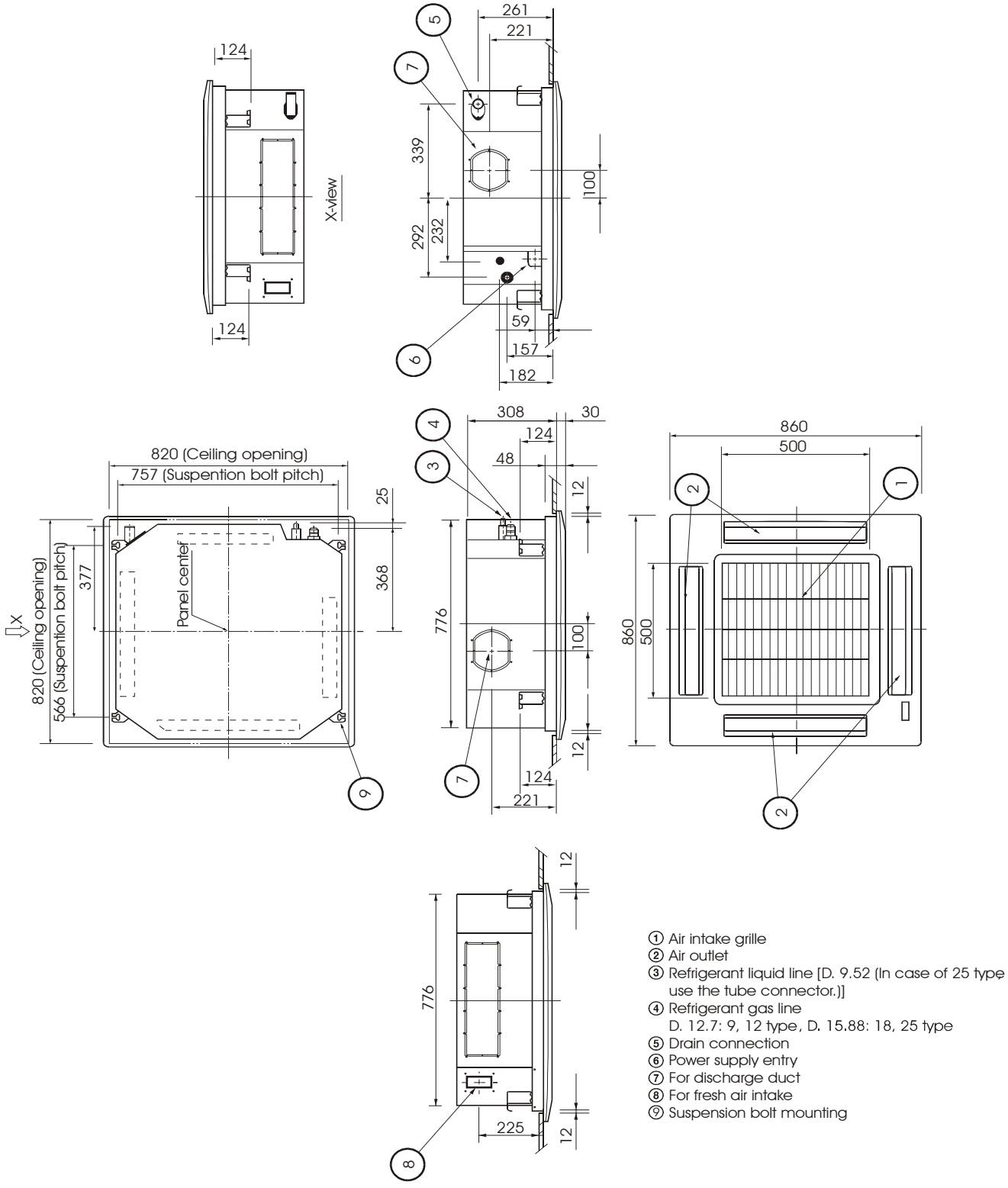
FRESH AIR INTAKE PORT



REFRIGERANT TUBING SIDE

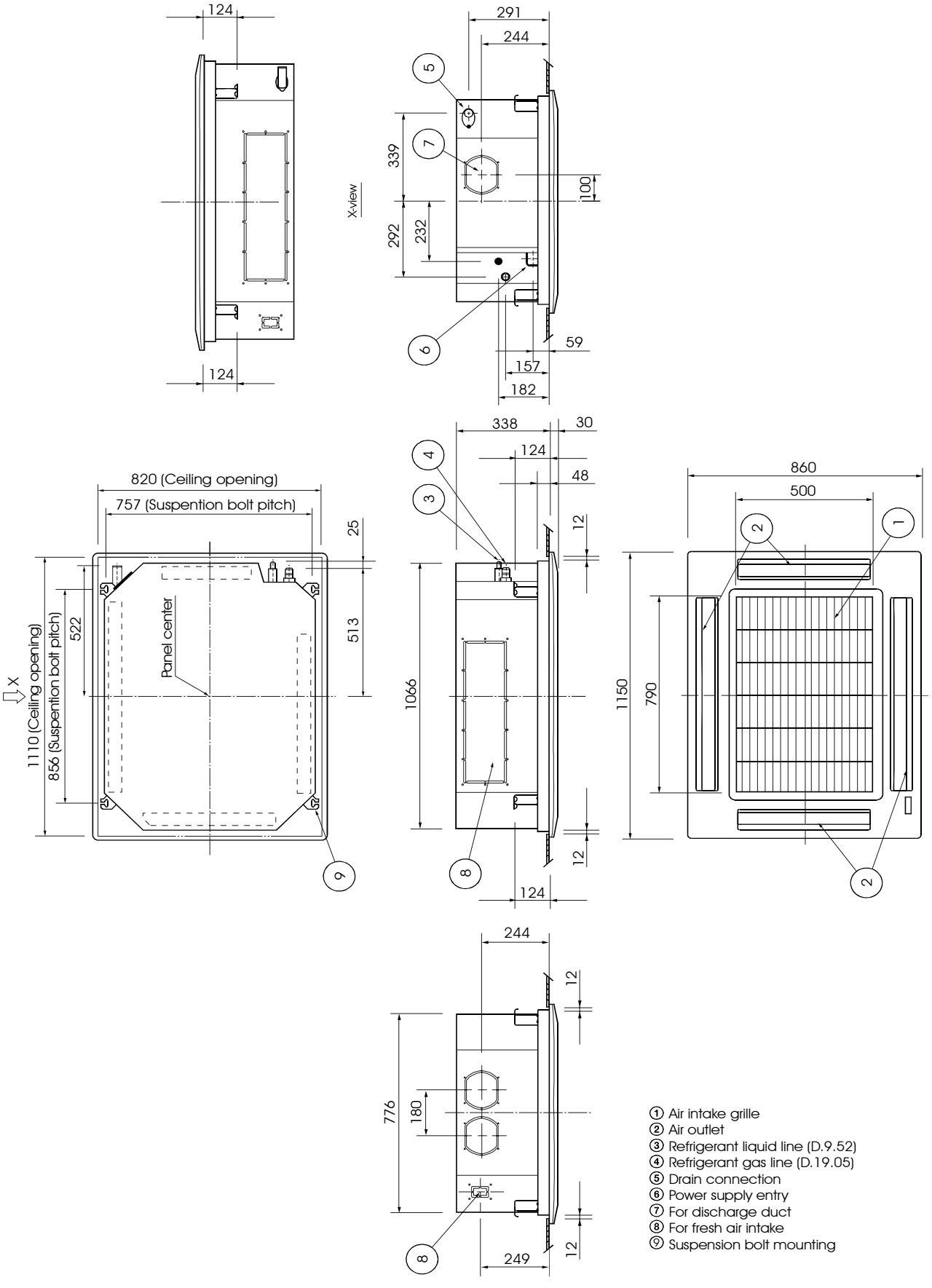


CWX6B5XAB



① Air intake grille
② Air outlet
③ Refrigerant liquid line [D. 9.52 (In case of 25 type use the tube connector.)]
④ Refrigerant gas line
D. 12.7: 9, 12 type, D. 15.88: 18, 25 type
⑤ Drain connection
⑥ Power supply entry
⑦ For discharge duct
⑧ For fresh air intake
⑨ Suspension bolt mounting

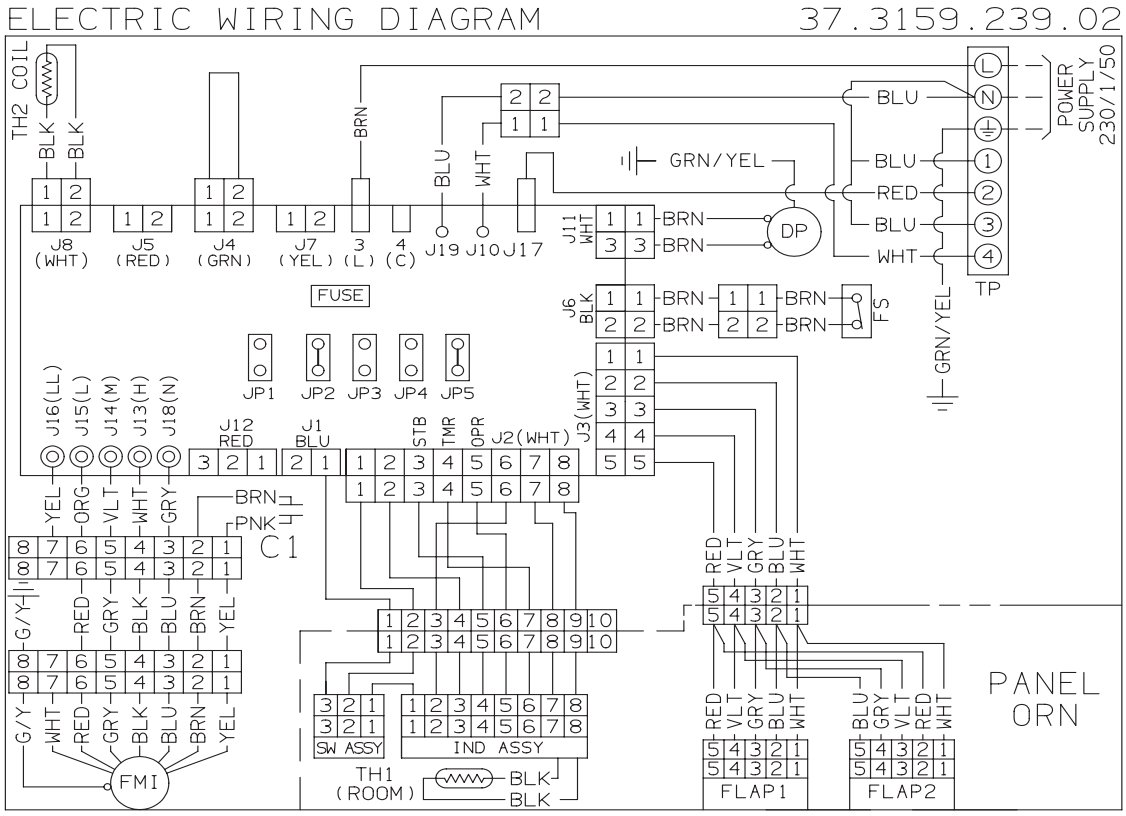
CWX8B5XAB **CWX10B5XAB**



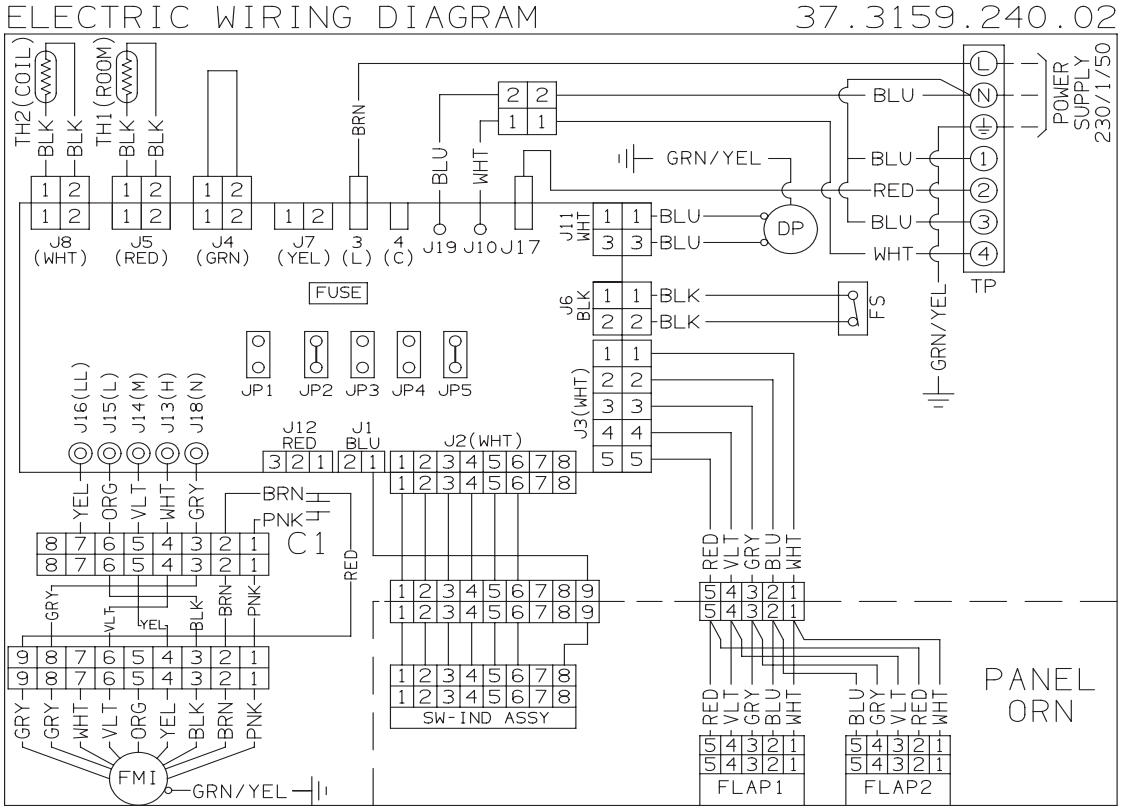
3. ELECTRICAL DATA

3-1 Electric Wiring Diagrams

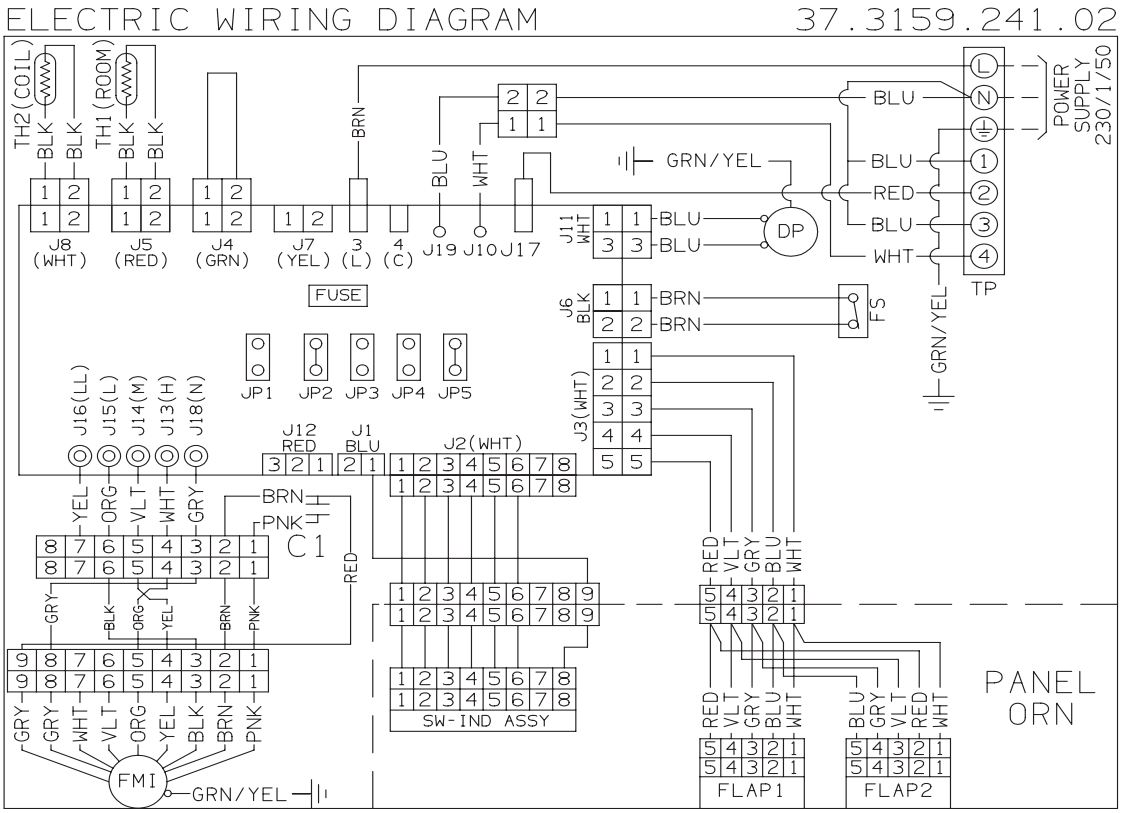
CWX3B5XAB CWX5B5XAB



CWX6B5XAB CWX10B5XAB

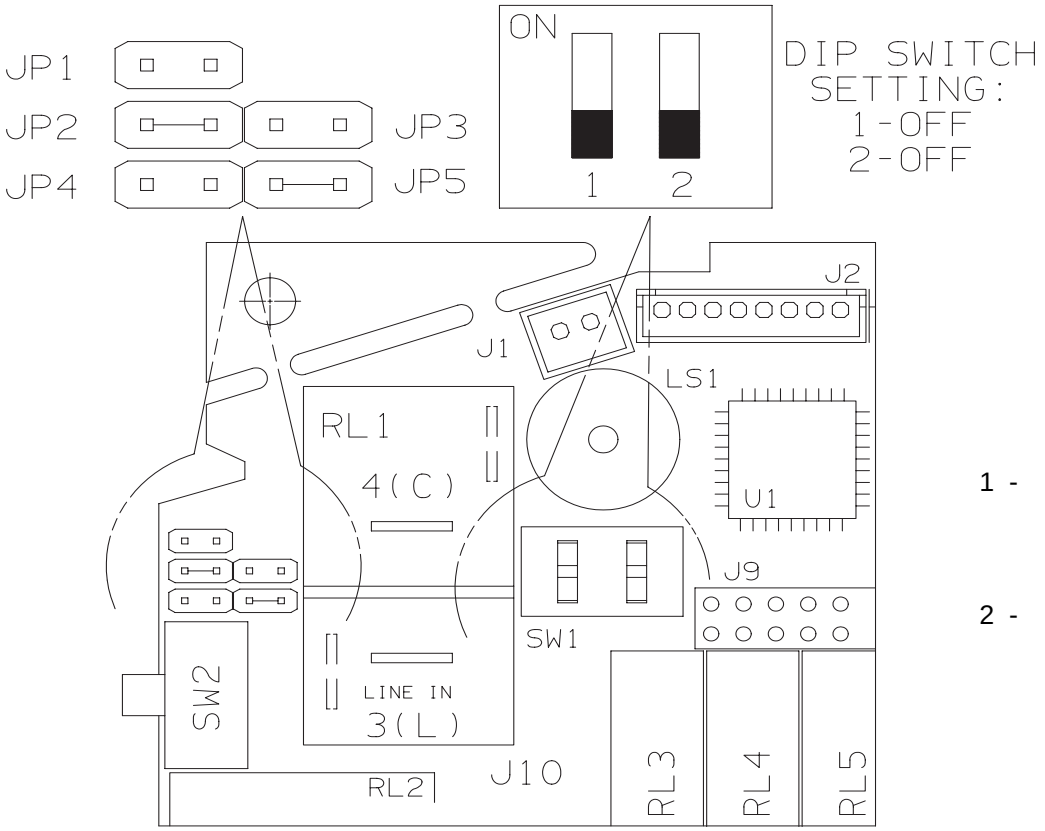


CWX8B5XAB


ELECTRIC WIRING DIAGRAM
37.3159.241.02
TH2(COIL)
TH1(ROOM)
BLK
BRN
BLU
WHT
GRN/YEL
RED
GRY
VLT
ORG
YEL
PNK
J8 (WHT)
J5 (RED)
J4 (GRN)
J7 (YEL)
J19
J10
J17
J11 WHT
J6 BLK
J3(WHT)
J2(WHT)
J12 RED
J1 BLU
J16(LL)
J15(L)
J14(M)
J13(H)
J18(N)
JP1
JP2
JP3
JP4
JP5
FUSE
DP
FS
TP
POWER SUPPLY 230/1/50
C1
FMI
SW-IND ASSY
FLAP1
FLAP2
PANEL ORN

3-2 JUMPERS CONFIGURATION

Jumpers are located on the indoor PCB near the MODE button.

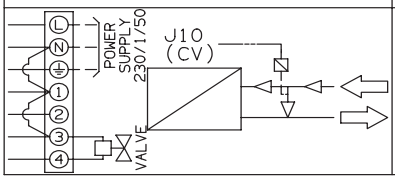


1 - Setting JUMPERS
C = Closed
O = Open

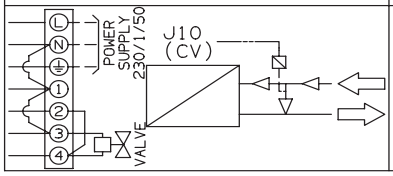
2 - Fonction
A = Available
E = Not available
(when selecting, all leds blinking)

NOTE: settings different from the factory one must be done by special worker

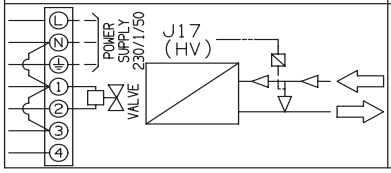
FACTORY SYSTEM CONFIGURATION:COOLING ONLY WITH VALVE

COOLING ONLY SYSTEM	FUNCTIONS					JUMPERS				
	❄	☀	Ⓐ	💧	FAN ONLY	JP1	JP2	JP3	JP4	JP5
	A	E	E	A	A	O	C	O	O	C

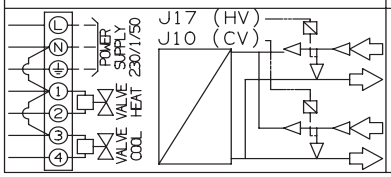
SYSTEM CONFIGURATION:COOLING OR HEATING WITH VALVE

COOLING ONLY SYSTEM	FUNCTIONS					JUMPERS				
	❄	☼	Ⓐ	💧	FAN ONLY	JP1	JP2	JP3	JP4	JP5
	A	A	E	A	A	O	O	O	O	C

SYSTEM CONFIGURATION:HEATING ONLY WITH VALVE

COOLING ONLY SYSTEM	FUNCTIONS					JUMPERS				
	❄	☼	Ⓐ	💧	FAN ONLY	JP1	JP2	JP3	JP4	JP5
	E	A	E	E	A	O	O	O	O	O

SYSTEM CONFIGURATION:COOLING WITH VALVE OR HEATING WITH VALVE

COOLING ONLY SYSTEM	FUNCTIONS					JUMPERS				
	❄	☼	Ⓐ	💧	FAN ONLY	JP1	JP2	JP3	JP4	JP5
	A	A	A	A	A	O	O	O	O	C

3-3 CONTACTS FOR BUILDING AUTOMATION

3-3.1 INPUT CONTACT (J4 - green)

The status of this input affects system operation according to the following:

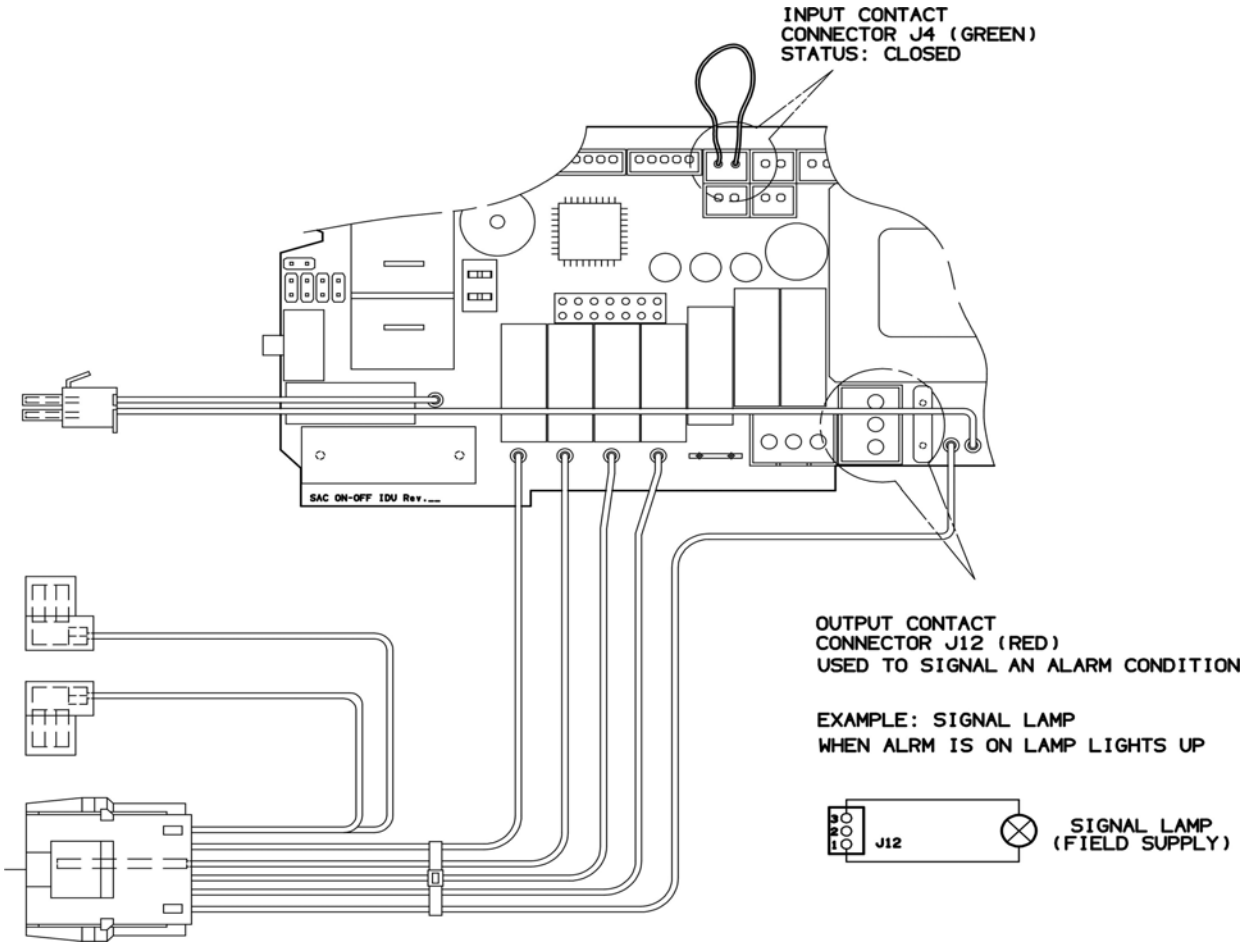
Contact OPEN : system does not operate (always OFF) – inputs from wireless remote controller are not processed
Contact CLOSED: system operates in the normal way according to the inputs coming from wireless remote controller

3-3.2 OUTPUT CONTACT (J12)

This connector is directly tied to the contact (normally open) of a power relay which activates every time the following alarm condition occur:

- RAT damaged
- ICT damaged

In this case when alarm happens, on poles 1 and 3 of J12 connector, 220 VAC-50Hz are available.
Max electrical load: **1A- 240VAC**



3-4 MAINTENANCE

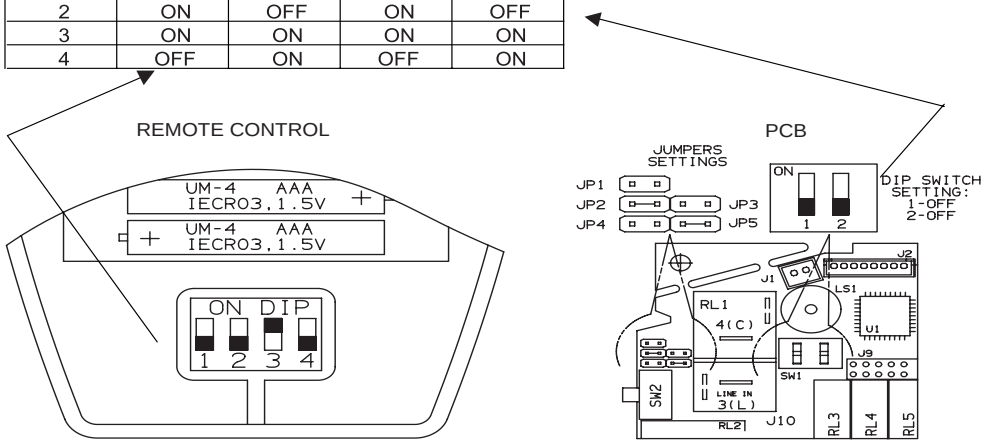
Changing the Address of the Air Conditioner

In case of more than one air conditioner operating in the same room, it may be necessary to assign an address to each unit in order to avoid operation conflicts. Address is set acting on the dip-switches located on the indoor PCB and on the remote controller. The PCB settings must match the corresponding ones on the wireless remote controller.

How to change address of the air conditioner

Dip switch is located on the indoor PCB near the buzzer.
Set the PCB to the address desidered

unit N°	remote control		indoor unit	
	1	2	1	2
1	OFF	OFF	OFF	OFF
2	ON	OFF	ON	OFF
3	ON	ON	ON	ON
4	OFF	ON	OFF	ON



As default switches SW1 and SW2 are in off status (PCB factory state).

How to change address on Remote Control Unit

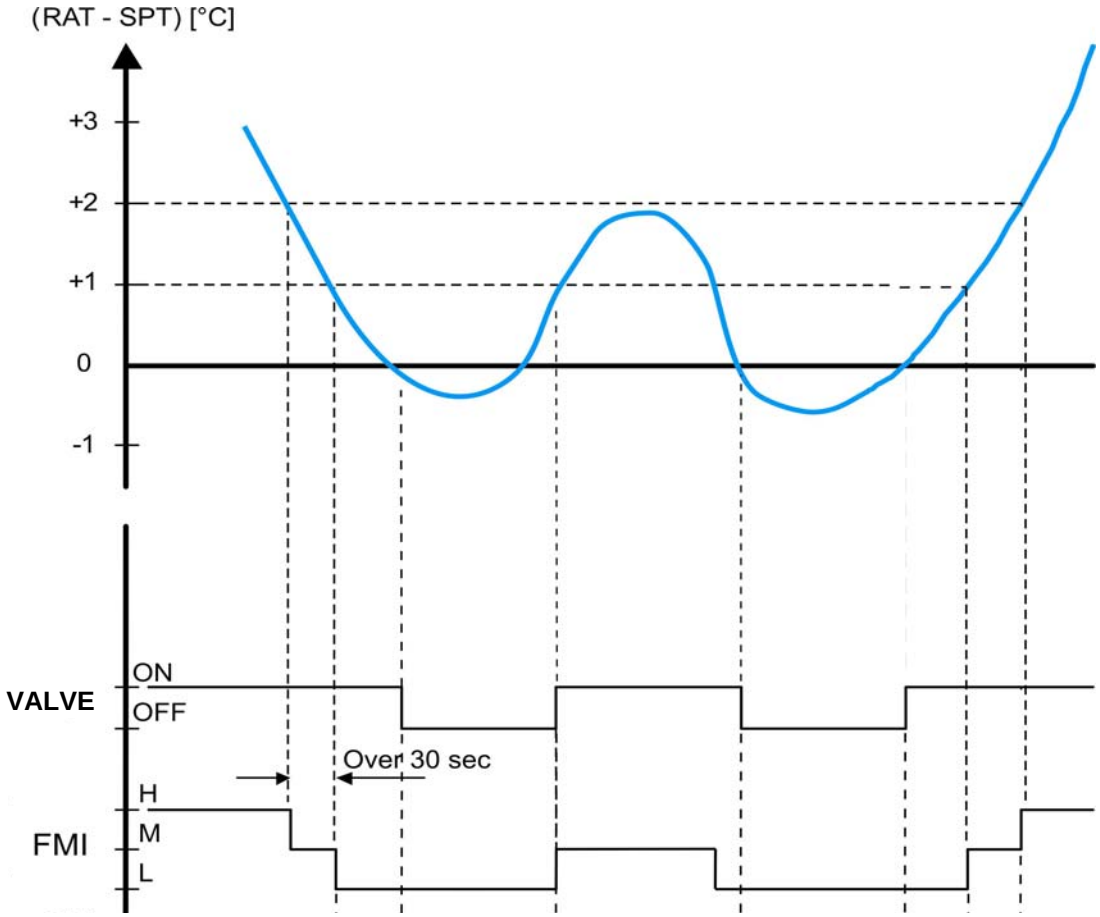
Dip switch is located on the battery compartment.

1) Pull out the door and remove the batteries.
2) Set the switch SW1 and SW2 according to the indoor PCB settings (do not act on SW3 and SW4)
3) Insert the batteries and pull on the door

As default switches SW1 and SW2 are in off status (remote controller factory state).

4.FUNCTION

4-1 Cool Mode Operation

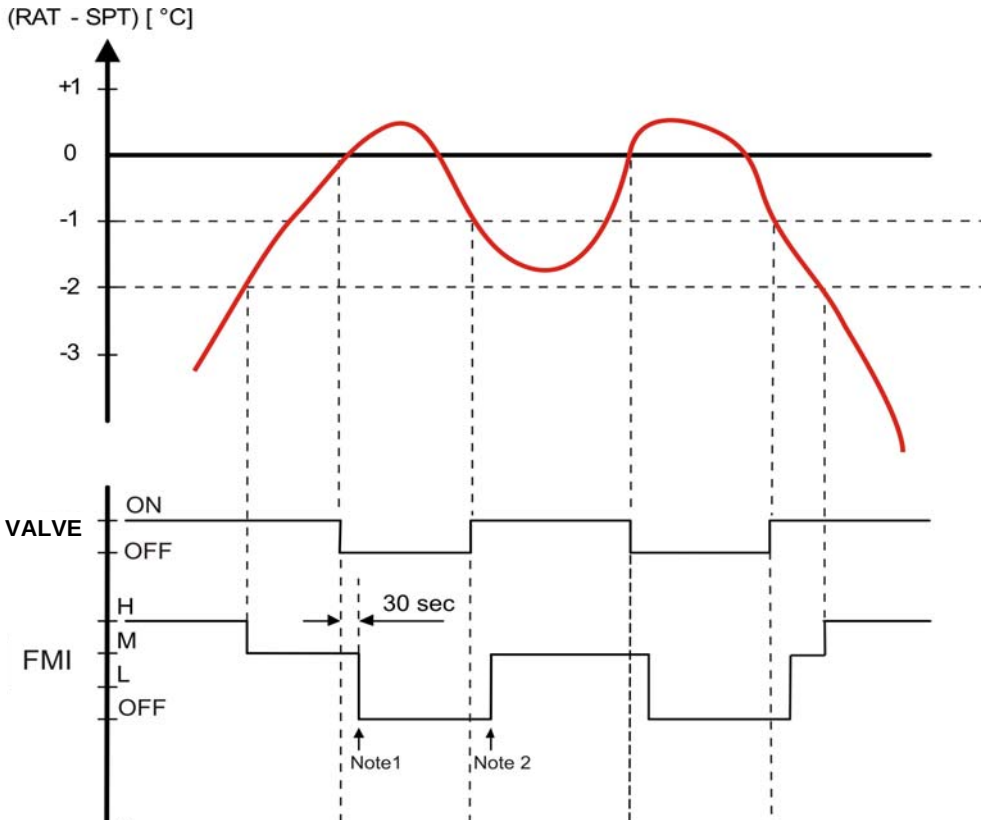


NOTES

1. In this graph, the FMI is operating with the “Auto Fan Speed” setting. If the user has selected the Low, Medium or High fan speed, the FMI will run at that speed only.

2. The indoor fan can change speed only after it has operated at the same speed for 30 sec if in AUTO and 1 sec for the other settings (High, Med, Low).

4-2 Heat Mode Operation



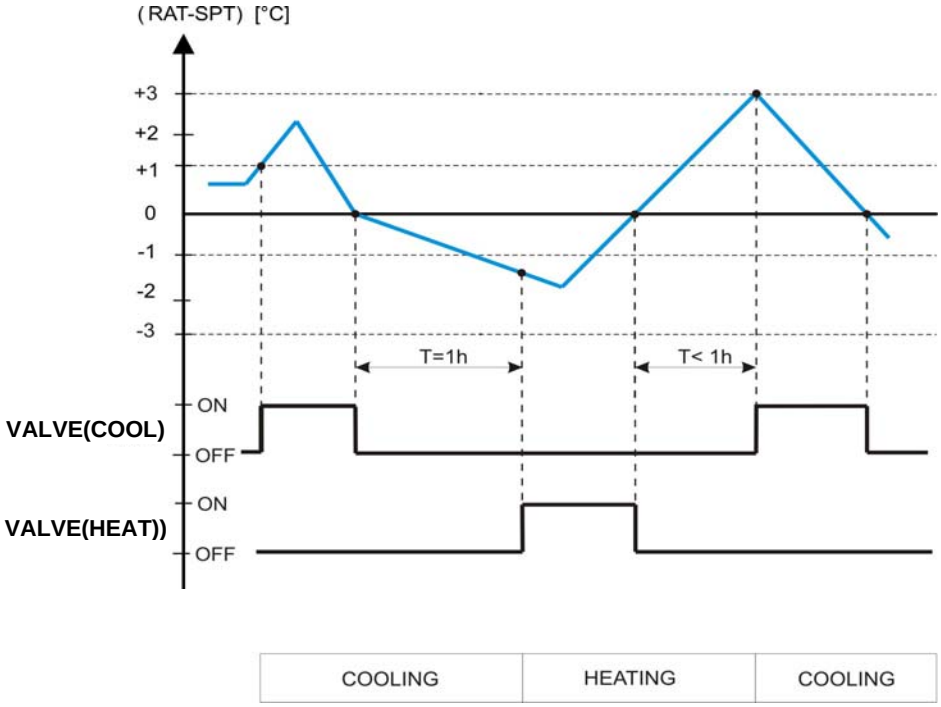
The Heating mode operation is similar to the Cooling mode operation. The VALVE and FMI are mainly controlled by the value of (RAT – SPT). In the graph above, the FMI is operating in AUTO speed mode. Therefore, the FMI speed changes automatically according to the (RT - SPT).

NOTES

1. After VALVE is switched off, the FMI runs for 30s in order to purge heat from the indoor coil.

2. The FMI will not be turned on until the indoor coil temperature is warm enough to prevent the supply of cool air (see COLD DRAFT PREVENTION mode for details). The indoor fan can change speed only after it has operated at the same speed for 30 sec if in AUTO and 1 sec for the other settings (High, Med, Low).

4-3 Auto (cool/heat) Mode Operation



In Auto Mode, the unit switches automatically between the Auto Cooling and Auto Heating in order to maintain the room temperature (RAT) at the prescribed set point (SPT).
The switching between the two modes is according to the above graph.
Refer to the sections 5.1 COOLING MODE and 5.2 HEATING MODE for system operation details.

4-4 Dry Mode Operation

Dry operation remove moisture from indoor air running, in cooling mode, at a low level without reducing the ambient temperature. This is done cycling ON and OFF indoor and outdoor units according to below.

ROOM TEMP	DRY LEVEL	JP4 OPEN	JP4 CLOSED
≥ SPT+2°C	LEVEL 0	Operation according to COOLING mode	Operation according to COOLING mode
< SPT+2°C ≥ SPT-1°C	LEVEL 1	CM off	CM off
		FMO on	FMO off
		FMI runs at LOW speed RV off	FMI runs at LOW speed RV off
< SPT-1°C ≥ 15°C	LEVEL 2	CM off	CM off
		FMO switches 3 minutes on and 9 minutes off	FMO off
		FMI switches LL and L during FMO operation	FMI switches LL and L (3 MIN. on and 9 OFF)
		RV off	RV off
< 15°C	DRY OFF ZONE	CM off	CM off
		FMO off	FMO off
		FMI off	FMI off
		RV off	RV off

SPT = Set Point Temperature

4-5 Fan Mode Operation

With this mode, the indoor fan is turned on while cooling and heating valve stay off all the time. The user can select between 3 speeds: HIGH, MEDIUM and LOW.

4-6 Auto Fan speed

With this option selected, the indoor fan speed changes automatically according to the difference between the detected air temperature (RAT sensor) and the set point (SPT):

COOLING MODE

2 ≤ (RAT – SPT):	HIGH speed
1 ≤ (RAT – SPT) < 2:	MEDIUM speed
(RAT – SPT) < 1:	LOW speed

HEATING MODE

2 ≤ (SPT - RAT):	HIGH speed
(SPT - RAT) < 2:	MEDIUM speed

NOTE
SPT = Set Point Temperature

4-7 Forced Mode

In this mode the system operates (COOLING or HEATING mode – fixed settings) or is switched off by means of the MODE button of the indoor unit control board. The operation modes can be selected pressing the button in a cyclic way (OFF ⇨ COOL ⇨ HEAT ⇨ OFF…). The settings are:

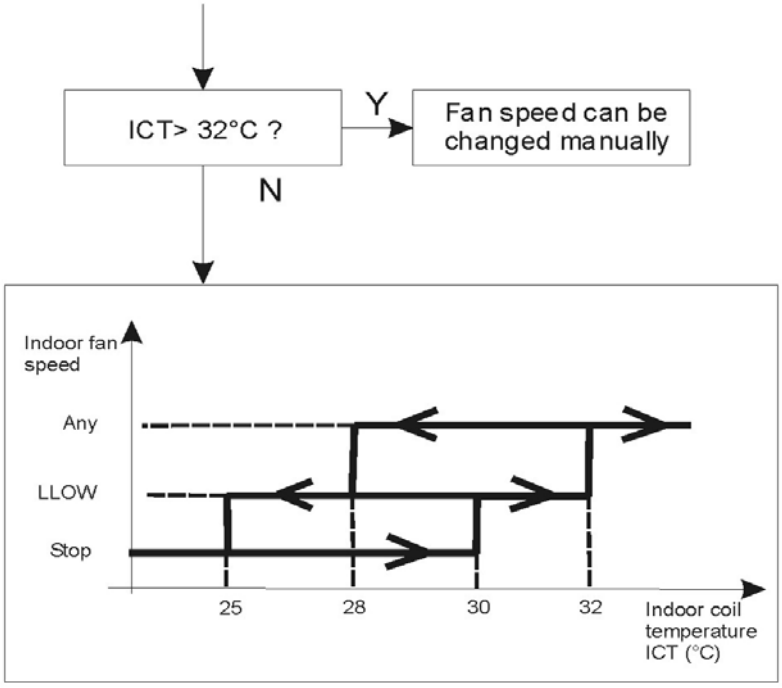
COOLING mode
SET POINT temperature = 25°C
FAN SPEED = HIGH

HEATING mode
SET POINT temperature = 21°C
FAN SPEED = HIGH

4-8 Protection operations in Heat Mode

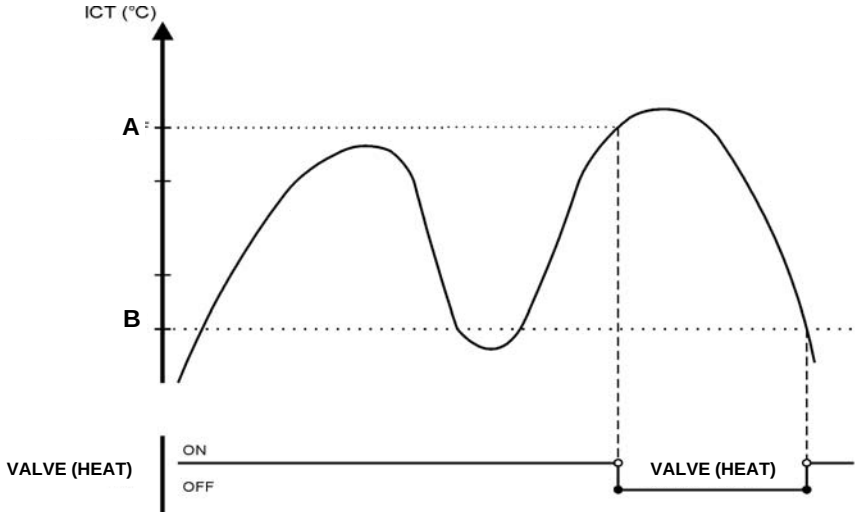
5-8.1 Cold draft

This feature prevents the supply of cold air forcing the indoor fan to a speed which cannot be changed by the user. As soon as the protection mode is exited speed can be changed manually through the remote controller. The protection acts in the following



4-8.2 Overheat

This feature prevents the build up of high pressure in the indoor heat exchanger during heating operation



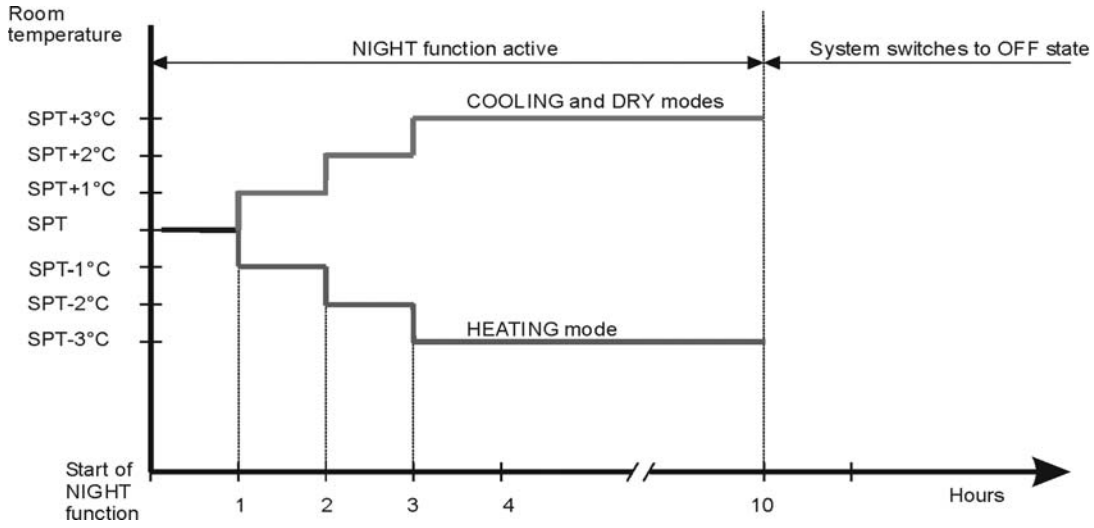
A (°C)	65
B (°C)	55

4-9 I FEEL Function

As standard configuration the air conditioner operates detecting the room temperature through the sensor equipped in the wireless remote controller (icon I FEEL shown on the display). This feature provides a personalised environment since the temperature can be detected where the remote controller is located.
It is possible to de-activate this option pressing the I FEEL button on the remote controller.
In this case the I FEEL icon is no longer displayed and room temperature is detected through the sensor included in the indoor unit.

4-10 NIGHT Function

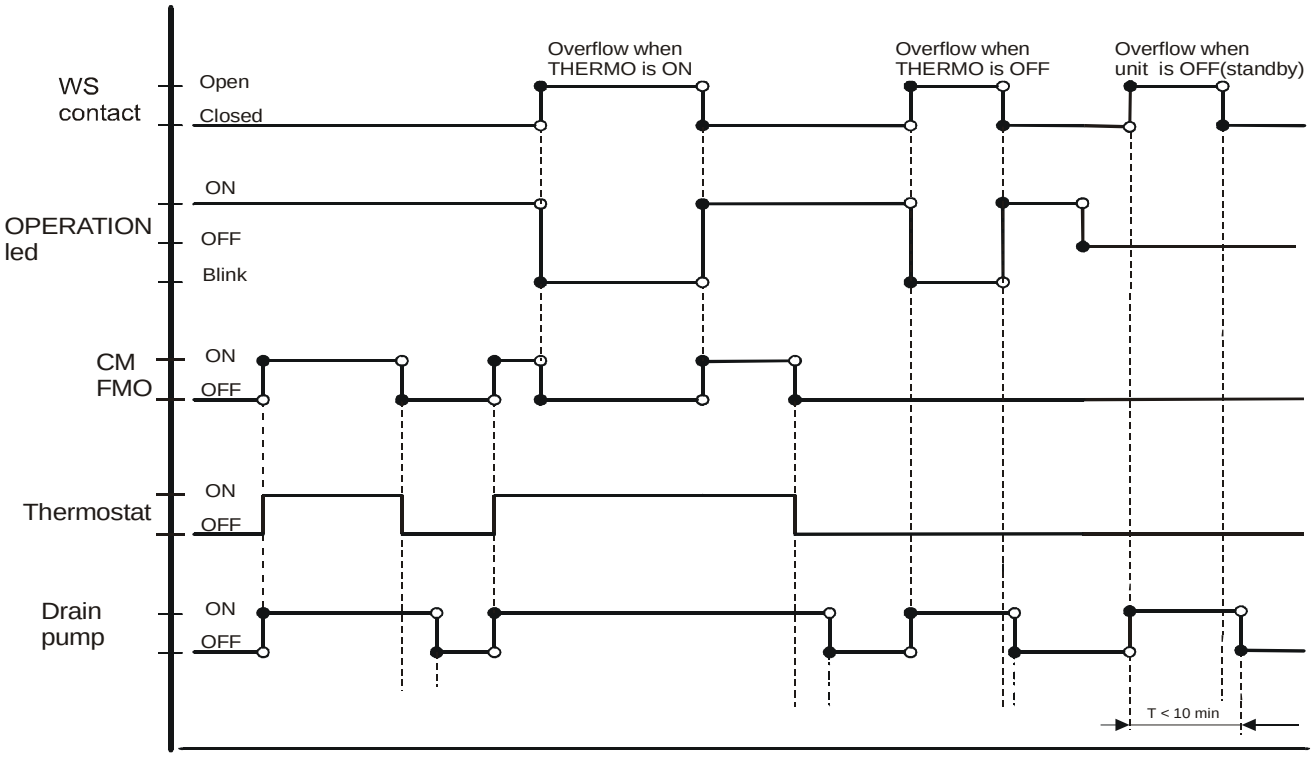
When this function is active, room temperature changes automatically to compensate for body temperature variations while sleeping. After 10 hours of operation system switches automatically to OFF state.
This mode of operation is available both in COOLING and HEATING mode.



4-11 DRAIN PUMP Mode

This unit is equipped with a drain pump

The level detection is done through a float switch connected at the input WS (closed under normal condition, and opened when water overflow). System operation is according to the following chart:



4-12 Diagnostic

With this feature is possible to have a visual signal that a trouble is occurring.
This mode is always active and the signalling is made through the display board LEDS .
In case of no troubles the LEDS status follows its normal function.

NOTES

- The troubles are showed according a priority list that is in case of more than one trouble present, is always showed, at first, the one with the highest priority (1 ⇨ 2⇨ 3 etc).
- Sensor damaged means a situation where sensor is short-circuited or opened.
- In case of damaged sensors, the system (CM, FMO, FMI etc), if in OFF state, does not start.

Priority	TROUBLE	LEDS status			Effects
		LD1(stby)	LD2(opr)	LD3(timer)	
2	RAT damaged	F	O	O	System does not operate
3	ICT damaged	F	F	O	
4	WRONG MODE SELECTED	F	F	F	System does not operate
5	Water level alarm	O	F	O	See paragraph 4-9 DRAIN PUMP MODE

O = LED off
● = LED on
F = LED blinking

WARNING: Priority 4 only for COOLING

5 CHECKING ELECTRICAL COMPONENTS

5-1 Measurement of Insulation Resistance

The insulation is in good condition if the resistance exceeds 1 MOhm

a) Power Supply Wires

Clamp the earthed wire of the power supply wires with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on either of the power wires (fig.1).
Then measure the resistance between the earthed wire and the other power wires (fig.1).

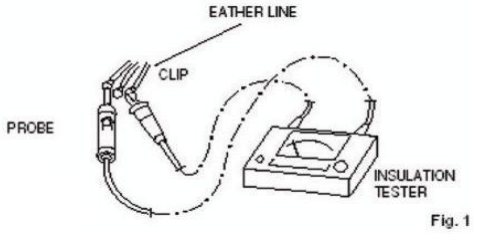


Fig. 1

b) Unit

Clamp an alluminium plate fin or copper tube with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on N terminal, and then on Lterminal the terminal plate (fig.2)

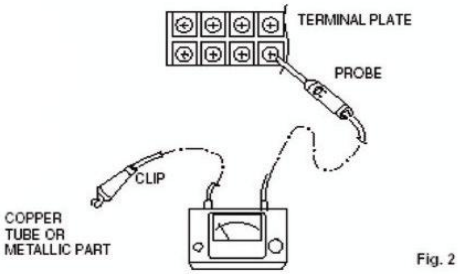


Fig. 2

c) Measurement of Insulation Resistance for Electrical Parts

Disconnect the lead wires of the disired electric part from terminal plate, PCB assy, capacitor, etc. Similary disconnect the connector. Then measure the insulation resistance (fig.1 to 4).
Refer to electric wiring diagram.

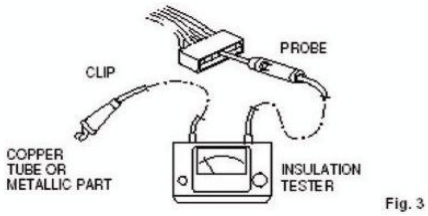


Fig. 3

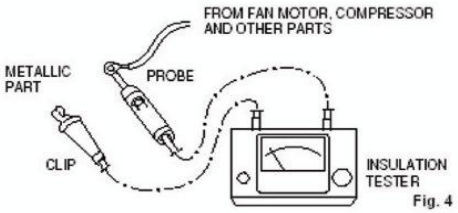


Fig. 4

NOTE

If the probe cannot enter the poles because the hole is too narrow then use a probe with a thinner pin.

5-2 Checking Continuity of fuse on PCB assy

Remove PCB assy from electrical component box (fig.5)

Then pull out the fuse from PCB assy

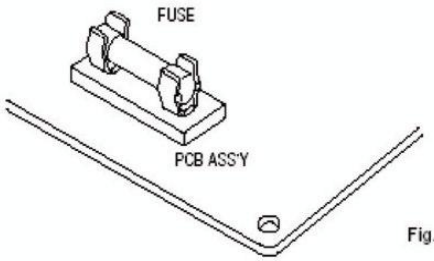


Fig. 5

Check continuity of fuse by the multimeter (fig.6)

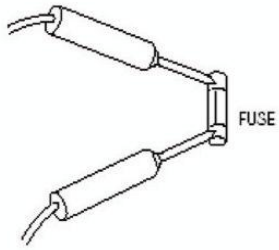


Fig. 6

Technibel
UNE AVANCE DANS L'AIR DU TEMPS
R.D. 28 Reyrieux BP 131 - 01601 Trévoux CEDEX France
Tél. 04.74.00.92.92 - Fax 04.74.00.42.00
R.C.S. Bourg-en-Bresse B 759 200 728