

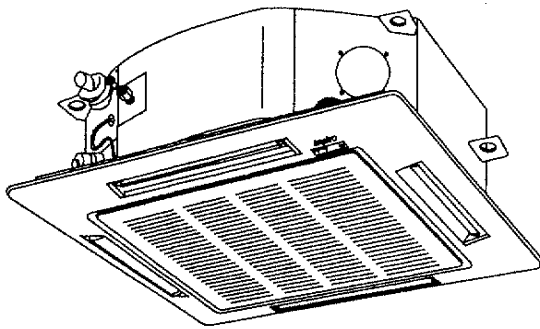
SERVICE MANUAL (Expanded Information)



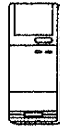
XS2422 **C2422**
 CL2422
XS3622 **C3622**

SPLIT SYSTEM AIR CONDITIONER

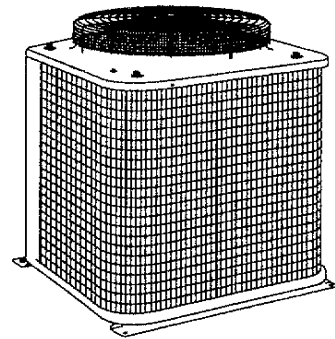
Indoor Unit



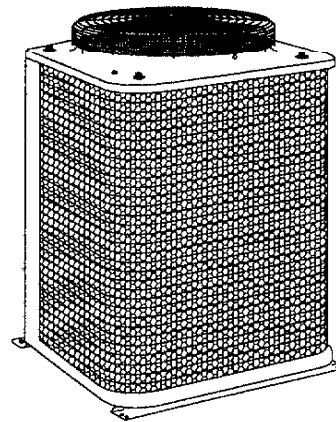
XS2422 / XS3622



Outdoor Unit



C2422 / CL2422



C3622

SERVICE MANUAL

XS2422 ——— **C2422**
 └───┬─── **CL2422**
XS3622 ——— **C3622**

(Expanded Information)

IMPORTANT! Please Read Before Starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning
- Follow each installation or repair step exactly as shown
- Observe all local, state, and national electrical codes
- Pay close attention to all warning and caution notices given in this manual



WARNING:

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



CAUTION:

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

When Wiring

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause **accidental injury or death**.
- **Ground the unit** following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing...

...In a Ceiling or Wall

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

...In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

...In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

...In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

...In a Snowy Area (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When Connecting Refrigerant Tubing

- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

NOTE:

Depending on the system type, liquid and gas lines may be either narrow or wide. Therefore, to avoid confusion the refrigerant tubing for your particular model is specified as either "narrow" or "wide" rather than as "liquid" or "gas."

When Servicing

- Turn the power OFF at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

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1. SPECIFICATIONS

1-1 Unit Specifications

Model No.		Indoor unit	XS2422		
		Outdoor unit	C2422 / CL2422		
Performance			Cooling		
	Capacity	BTU/h	24,000 / 23,400		
		kW	7.03 / 6.86		
	Air circulation (High)	cu. ft./min.	565 / 530		
Moisture removal (High)	pints/h	7.1 / 6.9			
Electrical Rating	Phase, Frequency		Hz	Single, 60	
	Voltage rating		V	230 / 208	
	Available voltage range		V	187 to 253	
	Running amperes		A	11.6 / 12.2	
	Power input		W	2,500 / 2,410	
	Power factor		%	94 / 95	
	Starting amperes		A	66	
	S. E. E. R.		BTU/Wh	10.0 / 10.1	
Features	Controls		Microprocessor		
	Control unit		Wireless remote control unit		
	Temperature control		IC thermostat		
	Timer		ON/OFF, 24-hours & Program		
	Fan speeds		Indoor / Outdoor	3 and Auto / 1	
	Air deflector		Horizontal / Vertical	— / Automatic	
	Air filter		Washable, easy access		
	Compressor		Rotary		
	Refrigerant amount charged at shipment		lbs. (kg)	R22: 6.4 (2.9)	
	Refrigerant control		Capillary tube		
	Refrigerant tubing connections		Flare type		
	Operation sound	In-Hi / Me / Lo	dB-A	46 / 42 / 35	
		Out-Hi	dB-A	52	
	Max. allowable tubing length at shipment		ft. (m)	50 (15)	
	Limit of tubing length		ft. (m)	100 (30)	
	Limit of elevation difference between the 2 units		ft. (m)	Outdoor unit is higher than indoor unit: 50 (15) Outdoor unit is lower than indoor unit: 50 (15)	
	Refrigerant tube o.d.	Narrow tube	in. (mm)	1/4 (6.35)	
Wide tube		in. (mm)	3/4 (19.05)		
Refrigerant tube kit		Optional			
Accessories					
Dimensions & Weight			Indoor unit	Outdoor unit	
	Height	in. (mm)	13 (330)	30-1/8 (765)	
	Width	in. (mm)	35-7/16 (900)	26-3/8 (670)	
	Depth	in. (mm)	35-7/16 (900)	26-3/8 (670)	
	Net weight	lbs. (kg)	80 (36)	178 (80.1)	
	Shipping volume	cu. ft. (cu. m)	19.5 (0.55)	16.3 (0.461)	
Shipping weight	lbs. (kg)	123 (55.4)	195 (87.8)		

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

Remarks: Rating conditions are: Outside air temperature 95°F DB/75°F WB

Indoor unit entering air temperature 80°F DB/67°F WB

Unit Specifications (cont'd)

Model No.		Indoor unit	XS3622	
		Outdoor unit	C3622	
Performance			Cooling	
	Capacity	BTU/h	35,000 / 34,000	
		kW	10.25 / 9.96	
	Air circulation (High)	cu. ft./min.	900 / 820	
Moisture removal (High)	pints/h	10.2 / 10.0		
Electrical Rating	Phase, Frequency		Hz Single, 60	
	Voltage rating		V 230 / 208	
	Available voltage range		V 187 to 253	
	Running amperes		A 16.3 / 17.3	
	Power input		W 3,510 / 3,410	
	Power factor		% 94 / 95	
	Starting amperes		A 98	
	S. E. E. R.		BTU/Wh 10.2 / 10.4	
Features	Controls		Microprocessor	
	Control unit		Wireless remote control unit	
	Temperature control		IC thermostat	
	Timer		ON/OFF, 24-hours & Program	
	Fan speeds		Indoor / Outdoor 3 and Auto / 1	
	Air deflector		Horizontal / Vertical — / Automatic	
	Air filter		Washable, easy access	
	Compressor		Rotary	
	Refrigerant amount charged at shipment		lbs. (kg) R22: 9.9 (4.5)	
	Refrigerant control		Capillary tube	
	Refrigerant tubing connections		Flare type	
	Operation sound	In-Hi / Me / Lo	dB-A 48 / 44 / 39	
		Out-Hi	dB-A 62	
	Max. allowable tubing length at shipment		ft. (m) 50 (15)	
	Limit of tubing length		ft. (m) 130 (40)	
	Limit of elevation difference between the 2 units		ft. (m) Outdoor unit is higher than indoor unit: 50 (15) Outdoor unit is lower than indoor unit: 50 (15)	
	Refrigerant tube o.d.	Narrow tube	in. (mm) 3/8 (9.52)	
		Wide tube	in. (mm) 3/4 (19.05)	
	Refrigerant tube kit		Optional	
	Accessories			
Dimensions & Weight			Indoor unit	
			Outdoor unit	
	Height	in. (mm)	15-3/4 (400)	38 (965)
	Width	in. (mm)	40-5/32 (1,020)	26-3/8 (670)
	Depth	in. (mm)	40-5/32 (1,020)	26-3/8 (670)
	Net weight	lbs. (kg)	110 (49.5)	209 (95)
	Shipping volume	cu. ft. (cu. m)	27.6 (0.776)	25 (0.708)
Shipping weight	lbs. (kg)	165 (74.3)	235 (107)	

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Remarks: Rating conditions are: Outside air temperature 95°F DB/75°F WB

Indoor unit entering air temperature 80°F DB/67°F WB

1-2 Major Component Specifications

(1) Indoor and Outdoor Units

(a) XS2422 (Indoor unit)

Unit Model No.		XS2422		
Protective Fuse		AC 250V, 10A		
Remote Control Unit		RCS-KS2412W		
Controller FCB	Control circuit fuse		POW-XS2422 250V, 3A	
	Switch Ass'y		SW-TS2422	
Fan	Type	Turbo		
	Number ... Dia.	in. (mm)	1 ... 14-9/16 (370)	
Fan Motor	Model ... Number		SFG6Q-41A6P ... 1	
	No. of pole ... rpm (230V, High)		6 ... 720	
	Nominal output		W (H.P.) 40 (1/19)	
	Coil resistance (Ambient temp. 68°F)		Ω WHT - BRN: 134.9 VLT - ORG: 37.4 ORG - YEL: 157.5 WHT - VLT: 15.7 VLT - PNK: 72.9	
	Safety devices	Type	Internal	
		Operating temp.	Open	°F 248 ± 9
			Close	°F 171 ± 27
	Run capacitor		μF 4	
			VAC	440
	Heat Exch.	Coil		Aluminum plate fin / Copper tube
Rows ... Fins per inch		3 ... 12.7		
Face area		ft. ² (m ²) 2.29 (0.21)		
Panel	Model		XS2422RWA	
	Indicator lamp ass'y		IND-TS2422	
	Dew proof heater		230V, 40W	
	Louver motor	Rating		M12 F 200 to 240V, 60Hz
		No. of pole ... rpm		12 ... 3.2
		Output		W 3
Coil resistance (at 77°F)		kΩ 11.5 ± 5%		

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

(b) C2422 (Outdoor unit)

Unit Model No.		C2422		
Compressor	Model ... Number		Rotary (hermetic) C-2R170H6U ... 1	
	No. of cyl. ... rpm		1 ... 3,500	
	Nominal output		W (H.P.) 1,700 (2-1/4)	
	Compressor lubricant		cc 800	
	Coil resistance (Ambient temp. 77°F)		Ω C - R: 0.885 C - S: 1.773	
	Safety devices	Type		Internal
		Overload relay models		—
		Operating temp.	Open	°F 297 ± 9
			Close	°F 198 ± 20
	Operating amp. (Ambient temp. 77°F)		—	
Run capacitor		μF 40		
		VAC 370		
Crank case heater		—		
Fan	Type		Propeller	
	Number ... Dia.		in. (mm) 1 ... 19-15/16 (500)	
Fan Motor	Model		KFC8S-101A6P	
	No. of pole ... rpm (230V, High)		6 ... 827	
	Nominal output		W (H.P.) 100 (1/8)	
	Coil resistance (Ambient temp. 68°F)		Ω WHT - BRN: 24.2 BLK - PNK: 53.1	
	Safety devices	Type		Internal
		Operating temp.	Open	°F 248 ± 9
			Close	°F 171 ± 27
Run capacitor		μF 5		
		VAC 440		
Heat Exch.	Coil		Aluminum plate fin / Copper tube	
	Rows ... Fins per inch		2 ... 12.7	
	Face area		ft. ² (m ²) 9.87 (0.92)	
External Finish		Acrylic baked-on enamel finish		

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

(c) CL2422 (Outdoor unit)

Unit Model No.		CL2422		
Controller PCB			POW-CL2412	
	Control circuit fuse		250V, 5A	
Compressor			Rotary (hermetic)	
	Model ... Number		C-2R170H6U ... 1	
	No. of cyl. ... rpm		1 ... 3,500	
	Nominal output W (H.P.)		1,700 (2-1/4)	
	Compressor lubricant cc		800	
	Coil resistance (Ambient temp. 77°F) Ω		C - R: 0.885 C - S: 1.773	
	Safety devices	Type		Internal
		Overload relay models		—
		Operating temp.	Open °F	297 ± 9
			Close °F	198 ± 20
Operating amp. (Ambient temp. 77°F)		—		
Run capacitor μF		40		
		VAC	370	
Crank case heater		230V 30W		
Fan	Type		Propeller	
	Number ... Dia. in. (mm)		1 ... 19-15/16 (500)	
Fan Motor	Model		KFC8S-101A6P	
	No. of pole ... rpm (230V, High)		6 ... 827	
	Nominal output W (H.P.)		100 (1/8)	
	Coil resistance (Ambient temp. 68°F) Ω		WHT - BRN: 24.2 BLK - PNK: 53.1	
	Safety devices	Type		Internal
		Operating temp.	Open °F	248 ± 9
			Close °F	171 ± 27
Run capacitor μF		5		
		VAC	440	
Heat Exch.	Coil		Aluminum plate fin / Copper tube	
	Rows ... Fins per inch		2 ... 12.7	
	Face area ft. ² (m ²)		9.87 (0.92)	
External Finish			Acrylic baked-on enamel finish	

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(d) XS3622 (Indoor unit)

Unit Model No.		XS3622		
Protective Fuse		AC 250V 10A		
Remote Control Unit		RCS-KS2412W		
Controller PCB			POW-XS2422	
	Control circuit fuse		250V - 3A	
Switch Ass'y		SW-TS2422		
Fan	Type		Turbo	
	Number ... Dia. in. (mm)		1 ... 19-1/3 (490)	
Fan Motor	Model ... Number		KFC8Q-101A6P ... 1	
	No. of pole ... rpm (230V, High)		8 ... 600	
	Nominal output W (H.P.)		40 (1/8)	
	Coil resistance (Ambient temp. 68°F) Ω		WHT - BRN: 72.5 WHT - VLT: 27.8 VLT - ORG: 34.8 ORG - YEL: 34.3 WHT - PNK: 99.5	
	Safety devices	Type		Internal
		Operating temp.	Open °F	248 ± 9
	Close °F		171 ± 27	
	Run capacitor		μF	4.5
			VAC	460
	Heat Exch.	Coil		Aluminum plate fin / Copper tube
Rows ... Fins per inch		3 ... 12.7		
Face area ft. ² (m ²)		4.57 (0.42)		
Panel	Model		XS3622RWA	
	Indicator lamp ass'y		IND-TS2422	
	Dew proof heater		230V, 47W	
			M12 F	
	Louver motor	Rating		200 to 240V, 60Hz
		No. of pole ... rpm		12 ... 3.2
		Output W		3
Coil resistance (at 77°F) kΩ		11.5 ± 5%		

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(e) C3622 (Outdoor unit)

Unit Model No.		C3622		
Compressor	Model ... Number		Rotary (hermetic) C-R221H8U ... 1	
	No. of cyl. ... rpm		1 ... 3,500	
	Nominal output		W (H.P.) 2,200 (3)	
	Compressor lubricant		cc 1,500	
	Coil resistance (Ambient temp. 77°F)		Ω C - R: 0.76 C - S: 2.76	
	Safety devices	Type		Internal
		Overload relay models		—
		Operating temp.	Open	°F 160 ± 5
			Close	°F 87 ± 11
	Operating amp. (Ambient temp. 77°F)		—	
Run capacitor		μF 40		
Crank case heater		VAC 370		
Fan	Type		Propeller	
	Number ... Dia.		in. (mm) 1 ... 19-15/16 (500)	
Fan Motor	Model		KFC6S-161A6P	
	No. of pole ... rpm (230V, High)		6 ... 820	
	Nominal output		W (H.P.) 160 (1/5)	
	Coil resistance (Ambient temp. 68°F)		Ω WHT - BRN: 34.9 WHT - PNK: 72.1 PNK - YEL: 81.6	
	Safety devices	Type		Internal
		Operating temp.	Open	°F 248 ± 9
			Close	°F 171 ± 27
Run capacitor		μF 4		
		VAC 440		
Heat Exch.	Coil		Aluminum plate fin / Copper tube	
	Rows ... Fins per inch		2 ... 12.7	
	Face area		ft. ² (m ²) 13.17 (1.22)	
External Finish		Acrylic baked-on enamel finish		

DATA SUBJECT TO CHANGE WITHOUT NOTICE.

1-3 Other Component Specifications

(I) Indoor Unit

XS2422 and XS3622

Transformer		ATR-H122U
Rated	Primary	AC 220V, 60Hz
	Secondary	10V, 1.2A
	Capacity	12VA
Coil resistance	Ω (at 77°F)	Primary (WHT - WHT): $146 \pm 15\%$ Secondary (BRN - BRN): $0.5 \pm 15\%$
Thermal cut-off temp.		259°F, 2A 250V

XS2422 and XS3622

Thermistor (coil sensor)		PBC-41E-S24			
Resistance	k Ω	14°F	$23.7 \pm 5\%$	77°F	$5.3 \pm 5\%$
		32°F	$15.0 \pm 5\%$	86°F	$4.4 \pm 5\%$
		50°F	$9.7 \pm 5\%$	104°F	$3.1 \pm 5\%$
		68°F	$6.5 \pm 5\%$		

XS2422 and XS3622

Thermistor (room sensor)		SDT-500B-6			
Resistance	k Ω	50°F	$10.3 \pm 4\%$	86°F	$4.0 \pm 4\%$
		59°F	$8.0 \pm 4\%$	104°F	$2.6 \pm 4\%$
		68°F	$6.3 \pm 4\%$	122°F	$1.8 \pm 4\%$
		77°F	$5.0 \pm 4\%$		

XS2422 and XS3622

Float Switch		FS-3502-202		
Contact rating		DC 200V, 1A		
Operation		Liquid surface	Down	ON
			Up	OFF

XS2422 and XS3622

Drain Pump		WP20SL-9
Rated	Voltage, Hz	AC 230V, 60Hz
	Input	14.7W
	Nominal output	3W
Coil resistance	Ω (at 68°F)	135
Thermal cut-off temp.		302°F

(2) Outdoor Unit

C2422

Electro-Magnetic Contactor		FMCA-1UL
Coil rating		AC 240V, 60Hz
Coil resistance	Ω (at 77°F)	580 \pm 15%
Contact rating (Main)		AC 240V, 20A
(Auxiliary)		AC 240V, 3A

C2422

Auxiliary Relay		MY2F-T1-USTS
Coil rating		AC 240V, 60Hz
Coil resistance	k Ω (at 77°F)	18.8 \pm 15%
Contact rating		AC 240V, 5A

C2422

Thermostat			YTB-4U201F
Operating temp.	°F	ON	75 + 3, -1
		OFF	79 \pm 3
Contact rating			200 to 240V, 1A

CL2422

Transformer		ATR-J122U
Rated	Primary	AC 220V, 60Hz
	Secondary	19V, 0.63A
	Capacity	12VA
Coil resistance	Ω (at 79°F)	Primary (WHT - WHT): 146 \pm 15%
		Secondary (BRN - BRN): 1.3 \pm 15%
Thermal cut-off temp.		259°F, 2A 250V

CL2422

Electro-Magnetic Contactor		CLK-16E3-21
Coil rating		AC 240V, 60Hz
Coil resistance	k Ω (at 77°F)	2.5 \pm 15%
Contact rating (Main)		AC 240V, 18A
(Auxiliary)		AC 240V, 3A

CL2422

Relay		MY2F-T1-USTS
Coil rating		DC 24V
Coil resistance	Ω (at 77°F)	650 \pm 15%
Contact rating		AC 240V, 5A

CL2422

SSR (solid state relay)		G3L-205TL-TS1
Input		DC 12V
	Rating voltage	DC 0 to 6.4V
	Control voltage range	AC 75 to 264V, 60Hz
Load voltage range		

CL2422

Thermistor (THR and THC)		PBC-41E-S4			
Resistance	kΩ	14°F	23.7 ± 5%	77°F	5.3 ± 5%
		32°F	15.0 ± 5%	86°F	4.4 ± 5%
		50°F	9.7 ± 5%	104°F	3.1 ± 5%
		68°F	6.5 ± 5%		

CL2422 and C3622

Thermostat			YTB-4U305F	
Operating temp.	°F	ON	75 + 3, -1	
		OFF	79 ± 3	
Contact rating			200 to 240V, 1A	

CL2422 and C3622

Thermistor (PTC)		TDK-101YV	
Rating max. voltage		AC 400V	
max. ampere		11.5A	
Resistance	Ω (at 77°F)	100 ± 25%	

C3622

High Pressure Switch			FTB-2UC01	
Operating pressure	psig	OFF	412 + 14, -7	
		ON	Manual	
Contact rating			AC 240V, 4A	

C3622

Electro-Magnetic Contactor		FMCA-1SUL	
Coil rating		AC 240V	
Coil resistance	Ω (at 77°F)	580 ± 15%	
Contact rating (Main)		AC 240V, 26A	
(Auxiliary)		AC 240V, 3A	

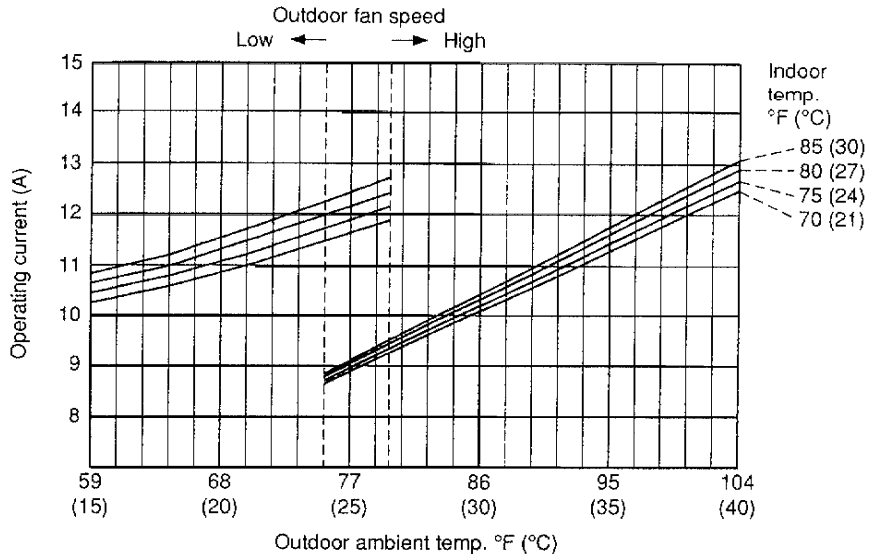
2. PERFORMANCE CHARTS

2-1 Operating Current

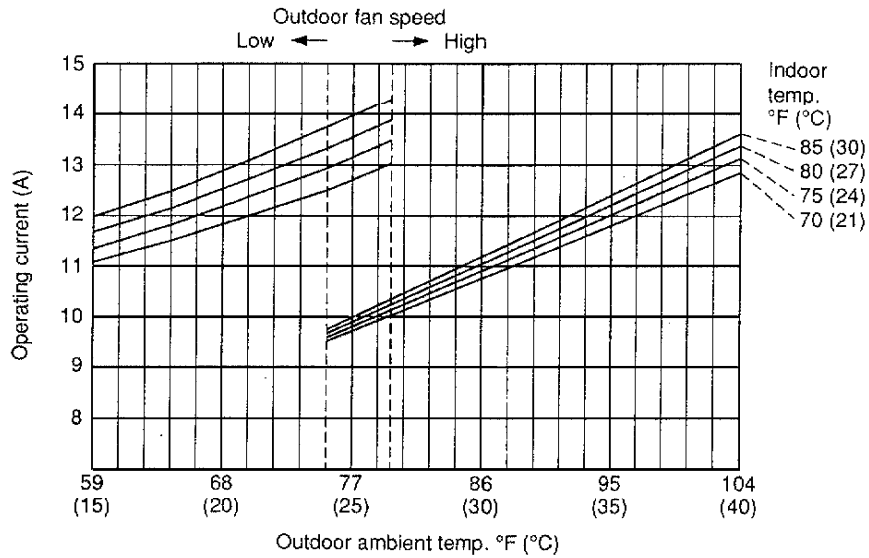
■ XS2422 / C2422

Operating current characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

230V



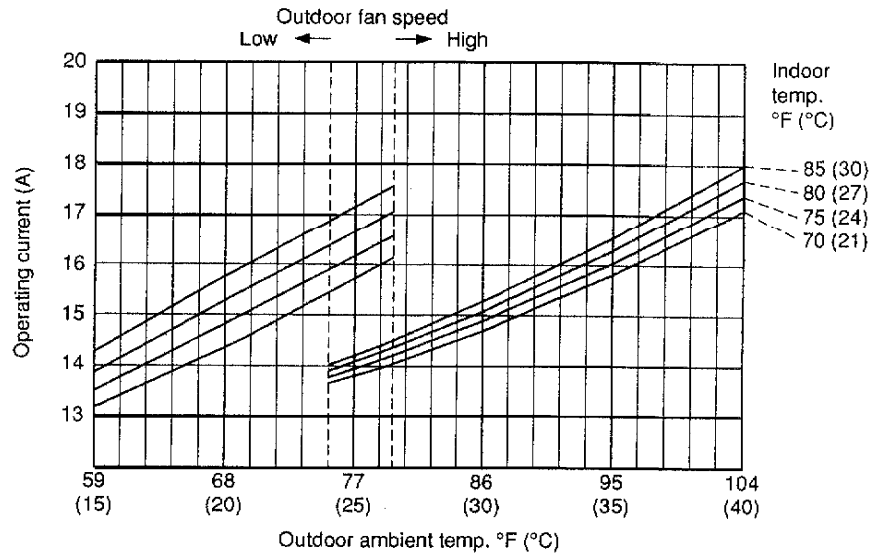
208V



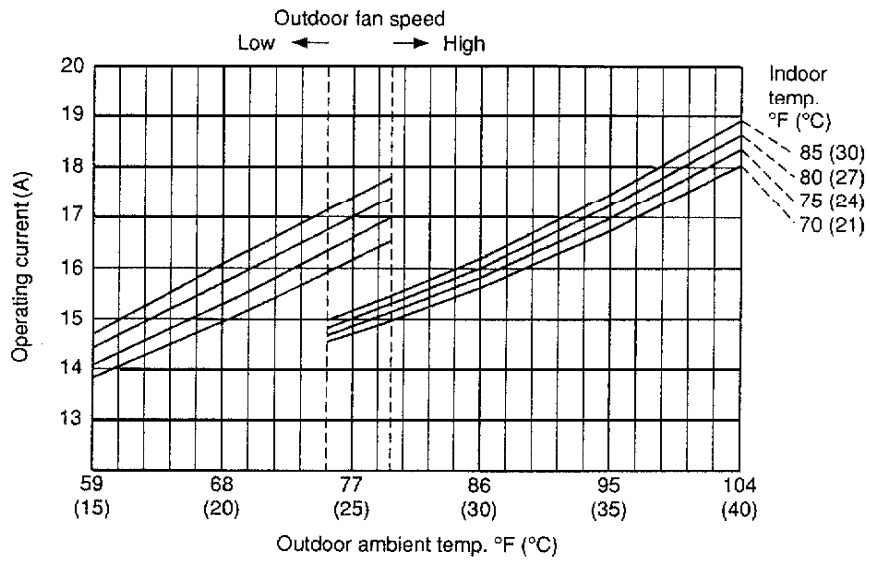
Operating Current

■ XS3622 / C3622

230V



208V



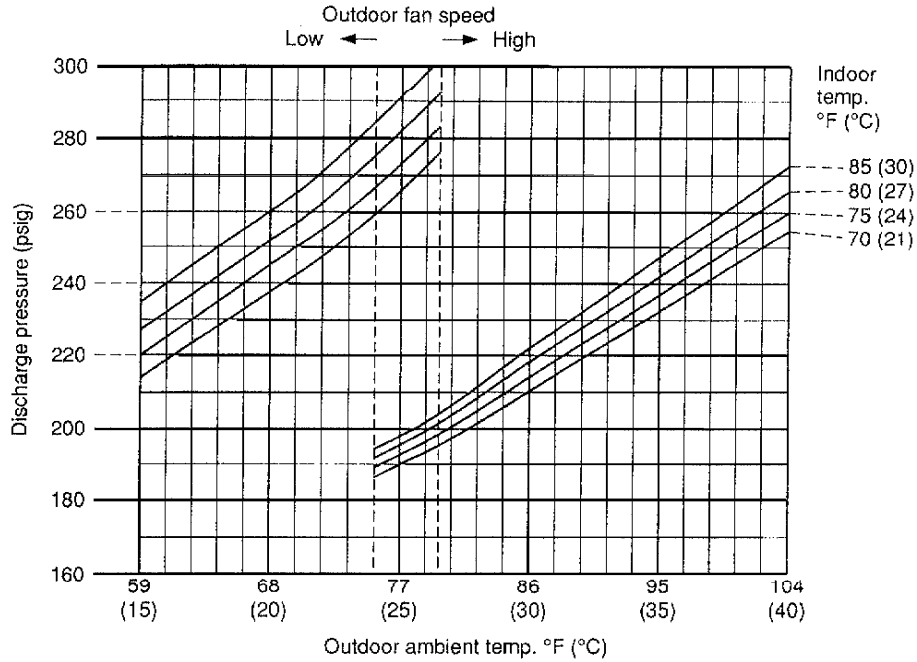
2-2 High and Low Pressure

■ XS2422 / C2422

● High Pressure

High pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

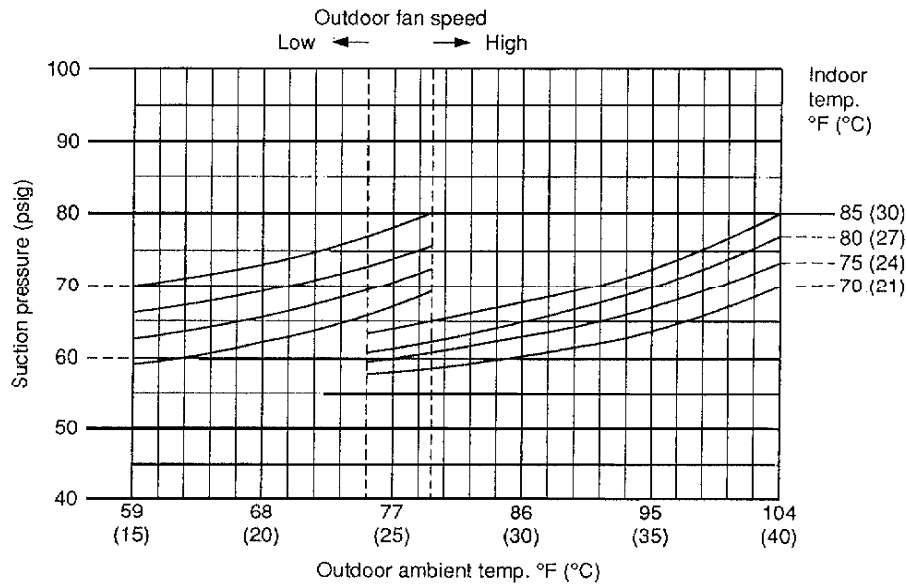
230V



● Low Pressure

Low pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

230V

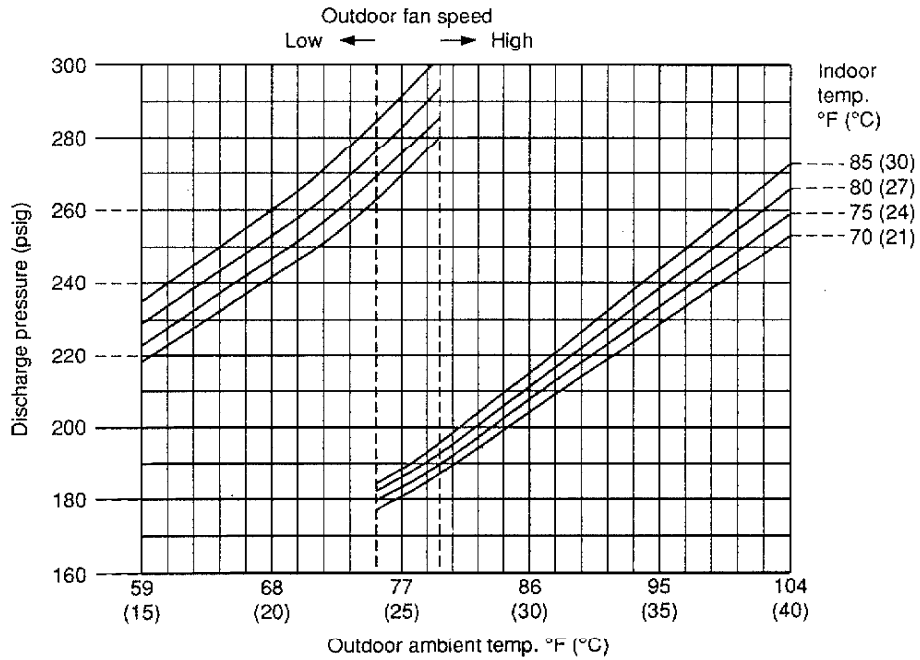


■ XS2422 / C2422

● High Pressure

High pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

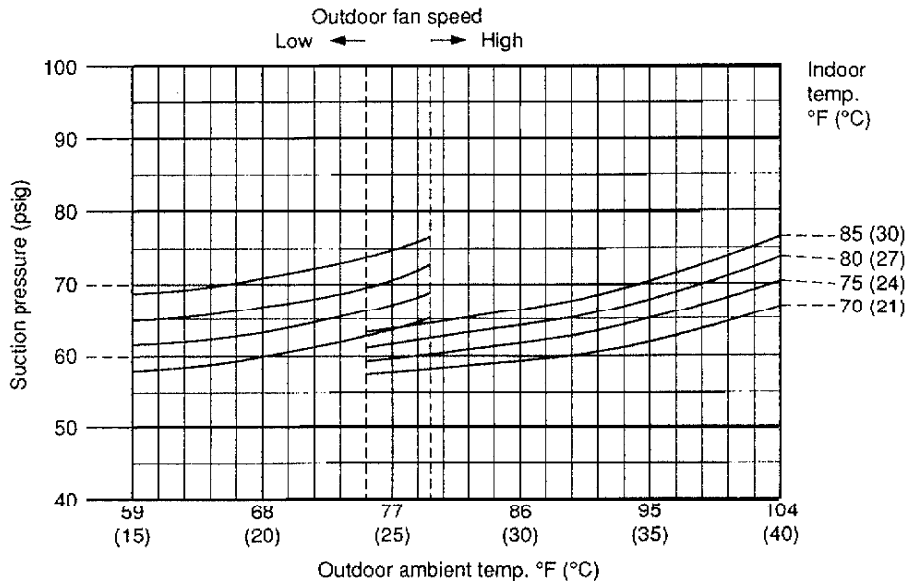
208V



● Low Pressure

Low pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

208V

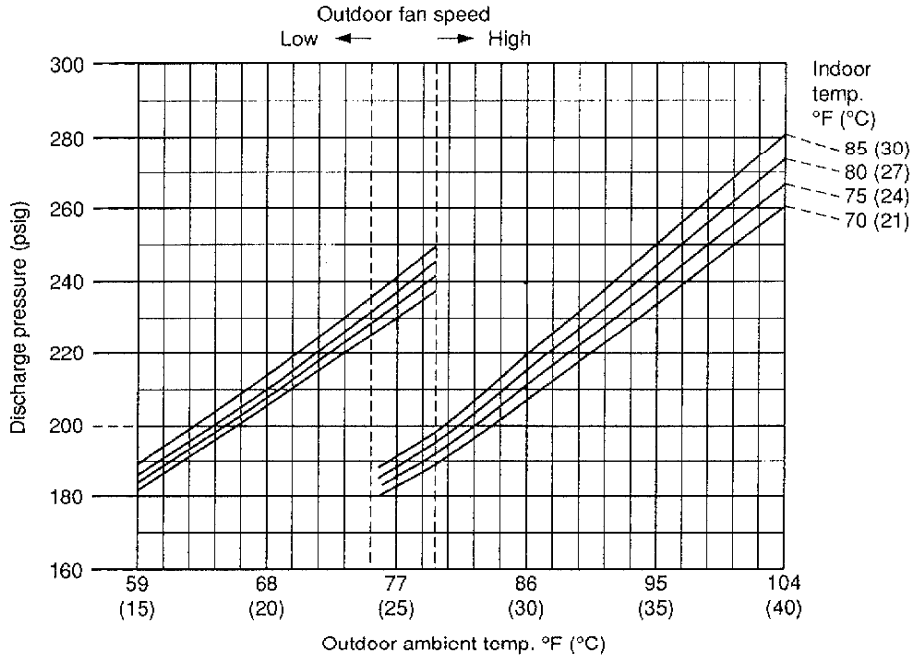


■ XS3622 / C3622

● High Pressure

High pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

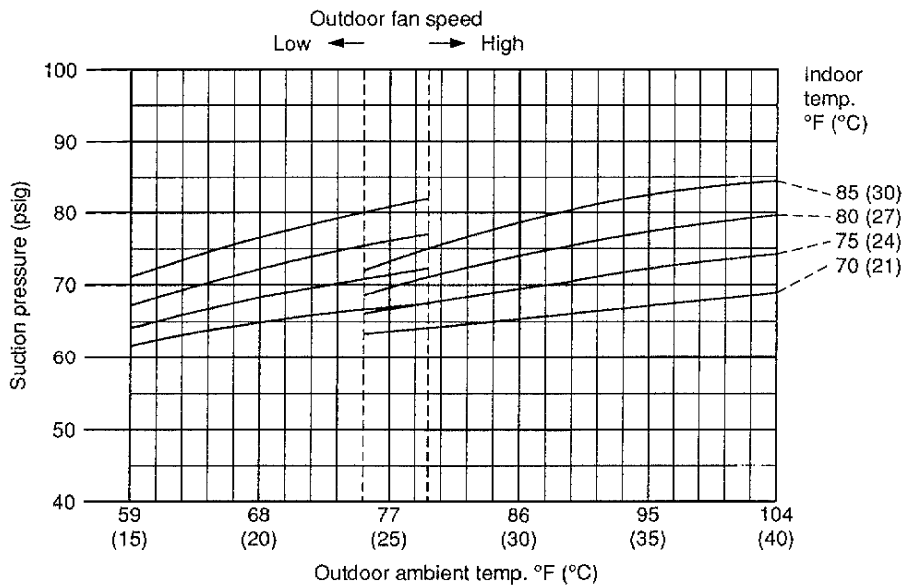
230V



● Low Pressure

Low pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

230V

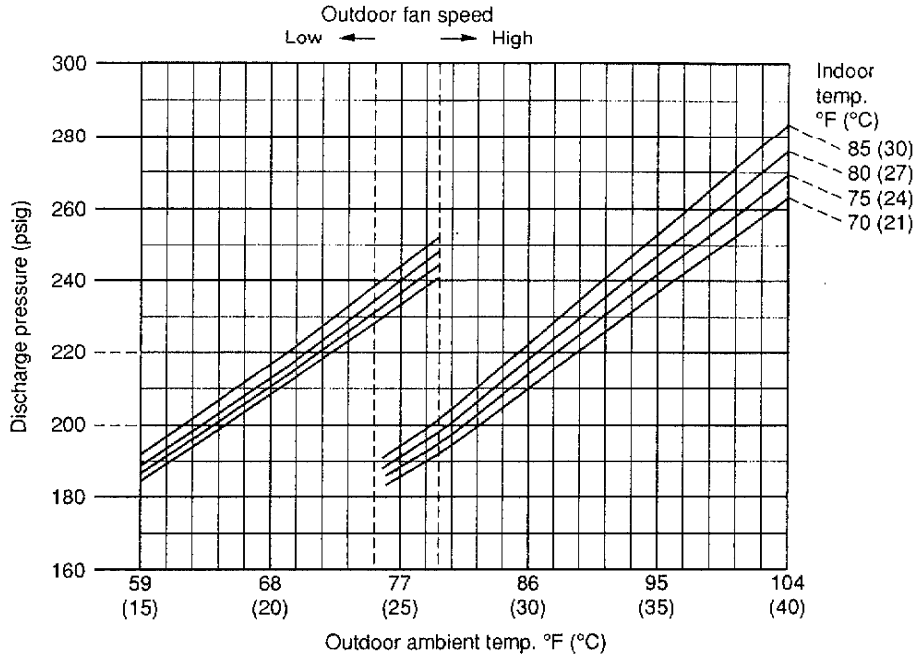


■ XS3622 / C3622

● High Pressure

High pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

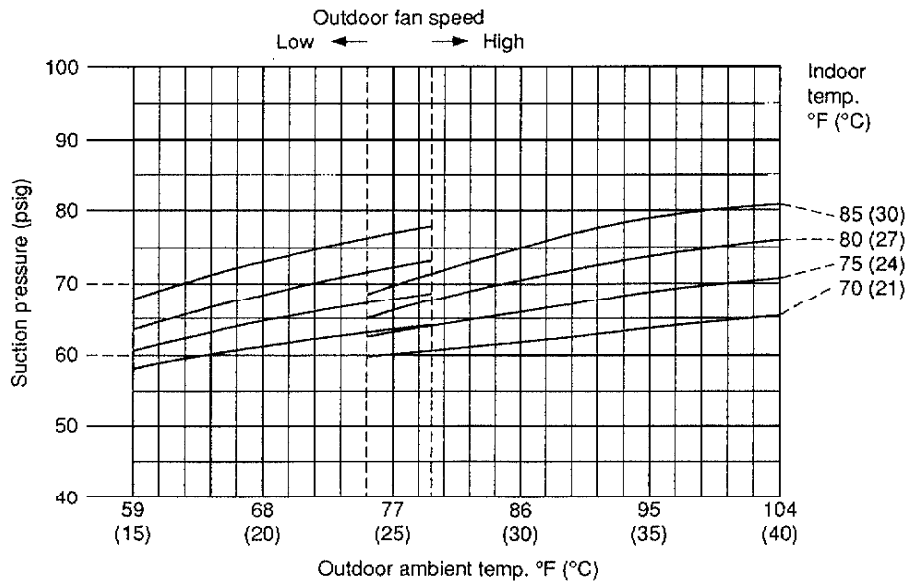
208V



● Low Pressure

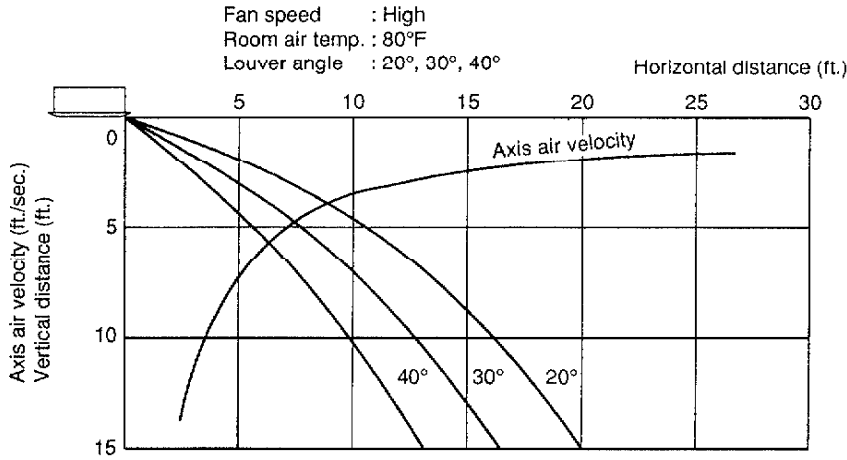
Low pressure characteristics versus outdoor ambient temperature and indoor temperature
(Indoor relative humidity: 50%, Indoor fan speed: High)

208V

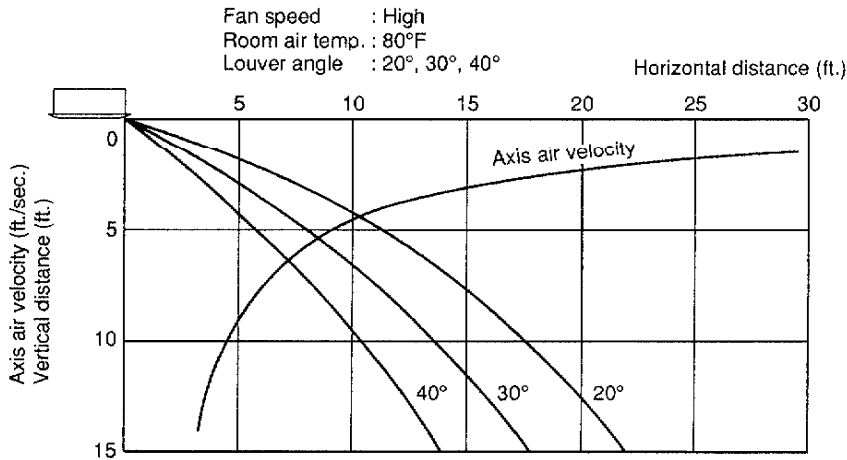


3. AIR THROW DISTANCE CHART

Model: XS2422



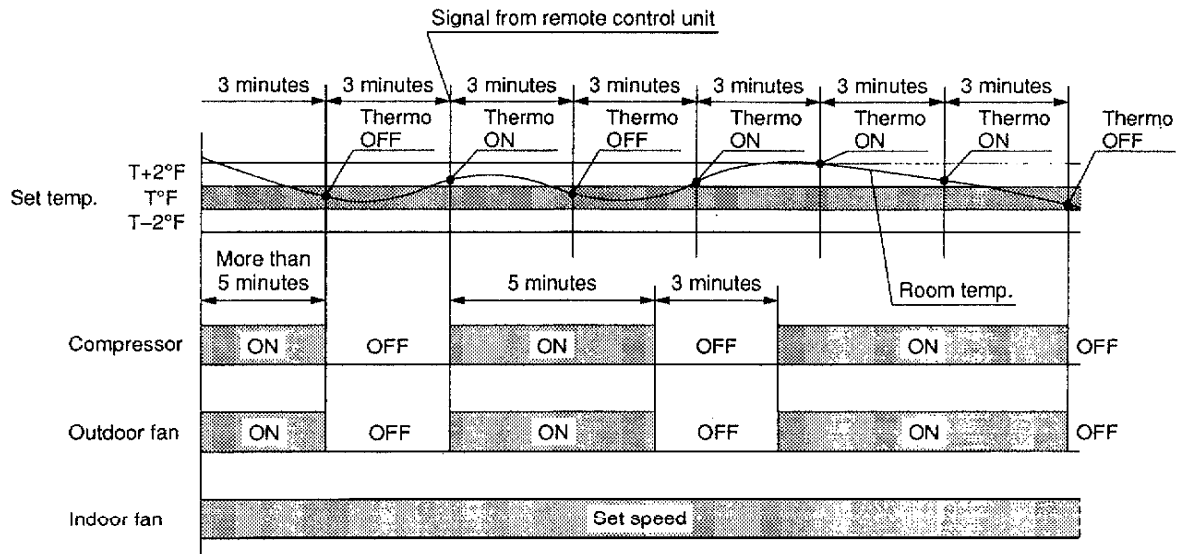
Model: XS3622



4. FUNCTION

4-1 Room Temperature Control

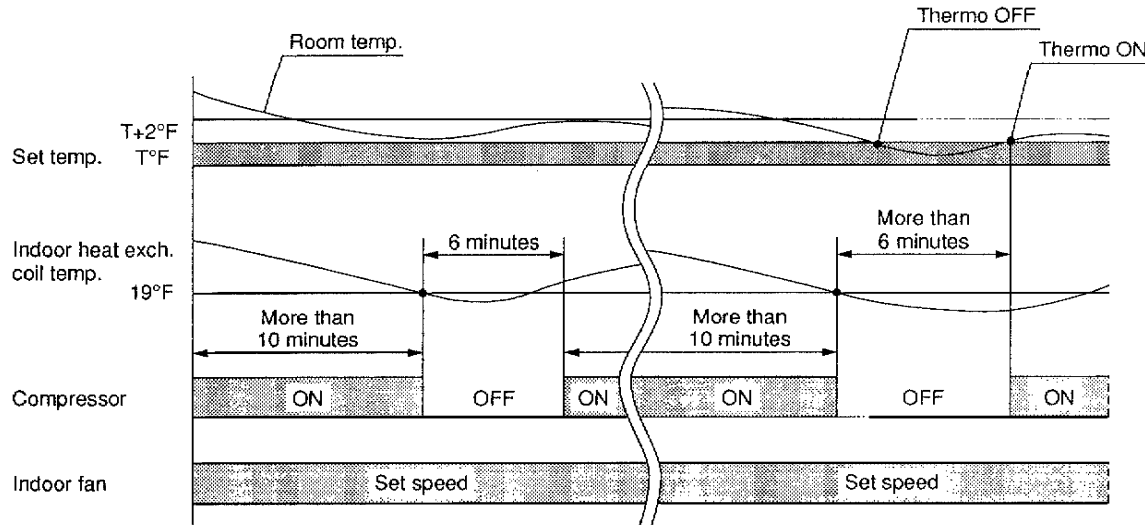
- Room temperature control is obtained by cycling the compressor ON and OFF under control of the room temperature sensor in the remote control unit.
- The room temperature (and other information) is transmitted every 3 minutes by the remote control unit to the controller in the indoor unit.



- The control circuit will not attempt to turn the compressor ON until the compressor has been OFF for at least 3 minutes. To protect the compressor from stalling out when trying to start against the high side refrigerant pressure, the control circuit has a built-in automatic time delay to allow the internal pressure to equalize.
- As a protective measure, the control circuit switches the compressor OFF after 5 minutes or more of compressor operation.
- Thermo ON : When the room temperature is above $T + 2^\circ\text{F}$ ($T^\circ\text{F}$ is set temperature).
Compressor \rightarrow ON
- Thermo OFF : When the room temperature is equal to or below set temperature $T^\circ\text{F}$.
Compressor \rightarrow OFF

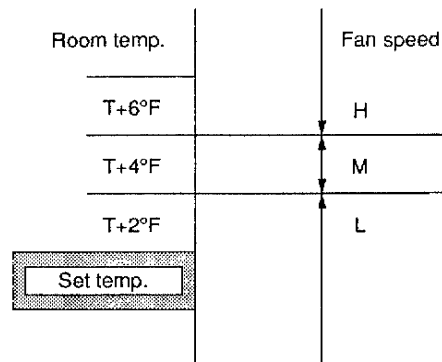
4-2 Freeze Prevention

- This function prevents freezing of the indoor heat exchange coil.
- When the compressor has been running for 10 minutes or more and the temperature of the indoor heat exchange coil falls below 19°F, the control circuit stops the compressor for at least 6 minutes.



4-3 Fan Speed Auto (Indoor Fan)

- The fan speed does not change within 1 minute.
- The number shows temperature for REMOCON sensor.




4-4 Outdoor Fan Speed Control (C2422 and C3622)

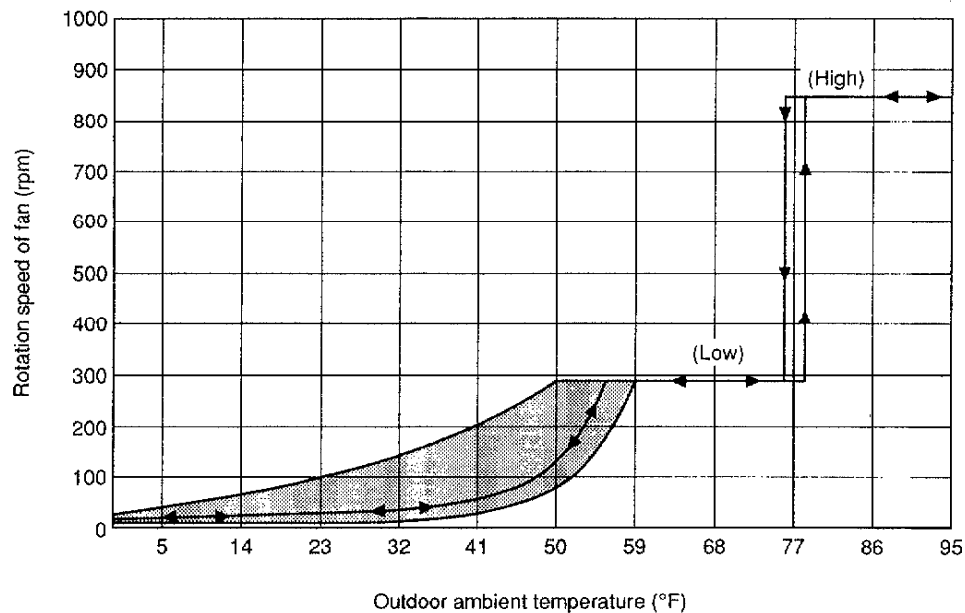
- In low temperature areas, the outdoor fan goes automatically to LOW to prevent freezing.
- When the outdoor air temperature falls below 75°F, the outdoor fan is set to LOW.
- When the outdoor air temperature rises to 79°F, the outdoor fan is set to HIGH.

4-5 Outdoor Fan Speed Control (CL2422)

- In low temperature areas, the outdoor fan goes automatically to LOW to prevent freezing.
- When the outdoor air temperature falls below 75°F, the outdoor fan is set to LOW.
- When the outdoor air temperature rises to 79°F or the outdoor unit heat exchanger temperature is above 145°F, the outdoor fan is set to HIGH.
- The speed of fan rotation follows an oblique line under the outdoor and indoor air temperature conditions as shown in the diagram below.

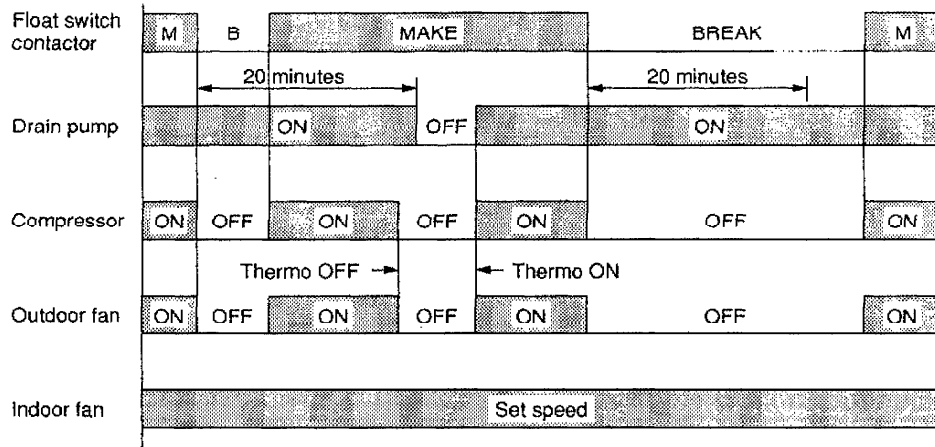
Rotation speed of outdoor fan

 In case of: 230V – 60Hz
 Room temp.: 67°F DB/57°F WB
 Indoor fan speed: Low



4-6 Drain Pump Control

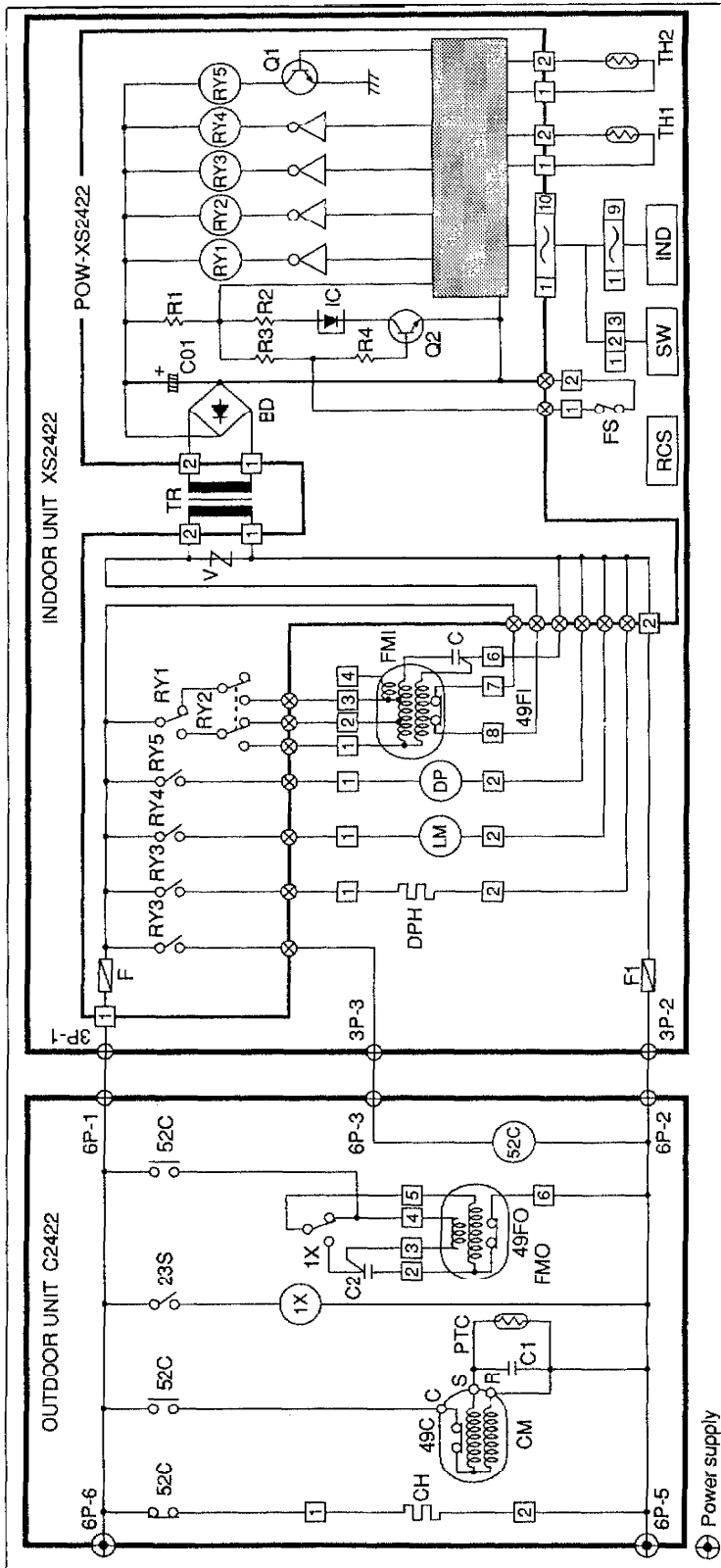
- The drain pump works as indicated in the figure below.



5. ELECTRICAL DATA

● Schematic Diagram

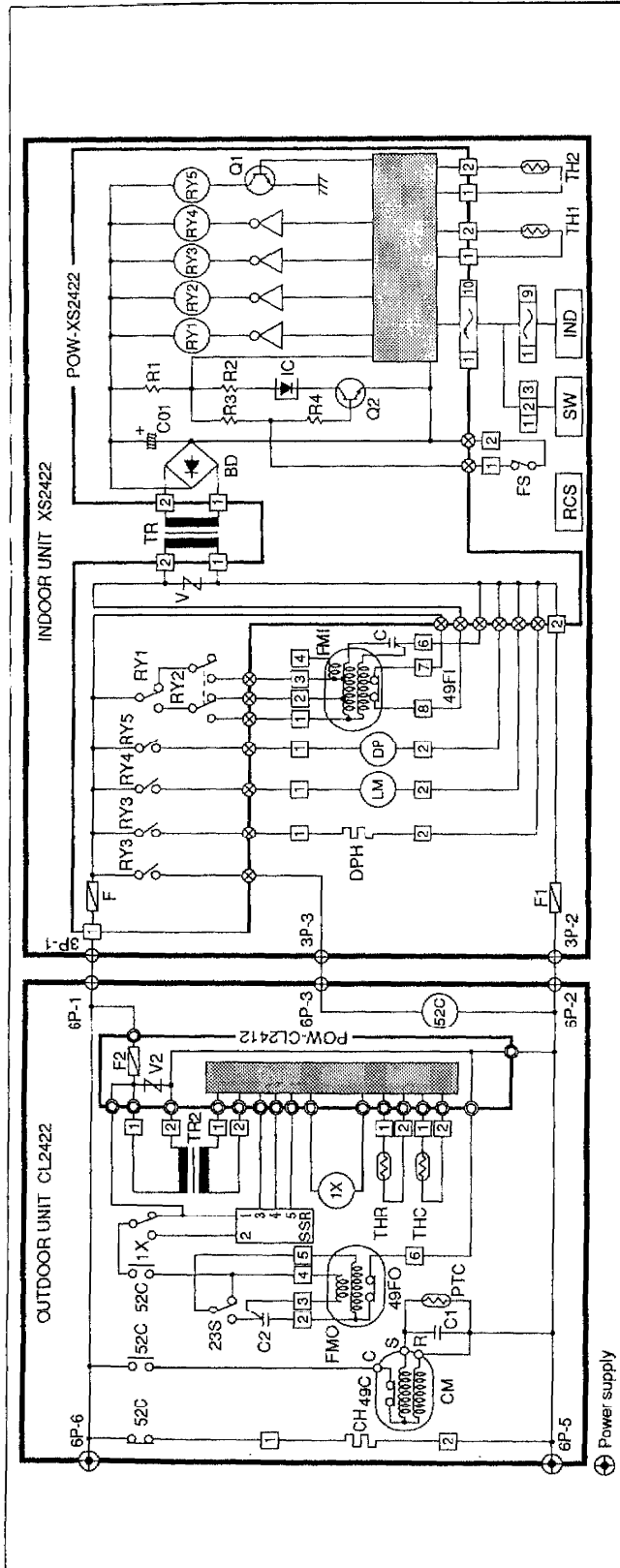
XS2422 / C2422



Symbol	Description	Symbol	Description
OUTDOOR UNIT		C	CAPACITOR
CH	CRANK CASE HEATER	49FI	INDOOR FAN MOTOR INTERNAL PROTECTOR
CM	COMPRESSOR MOTOR	TR	TRANSFORMER
49C	COMPRESSOR MOTOR INTERNAL PROTECTOR	TH1	THERMISTOR (COIL TEMP. SENSOR)
PTC	THERMISTOR	TH2	THERMISTOR (ROOM TEMP. SENSOR)
2S	OUTDOOR AIR TEMP. THERMOSTAT	FS	FLOAT SWITCH
X	AUXILIARY RELAY	IND	IND. LAMP ASS'Y IND. TS2422
FMO	OUTDOOR FAN MOTOR	SW	SWITCH ASS'Y SW-TS2422
49FO	OUTDOOR FAN MOTOR INTERNAL PROTECTOR	RCS	WIRELESS REMOTE CONTROL UNIT RCS-KS412W
C1, C2	CAPACITOR	POW-XS2422	CONTROLLER PCB ASS'Y
5C	ELECTRO-MAGNETIC CONTACTOR	F	FUSE, 250V, 3A
		V	VARIABLE
INDOOR UNIT		BD	BRIDGE DIODE
F1	FUSE 250V, 10A	C01	CAPACITOR
DPH	DEW PROOF HEATER	RT - R4	RESISTOR
LM	LOUVER MOTOR	IC	IC
BP	DRAIN PUMP	RY1 - RY5	AUXILIARY RELAY
FMI	INDOOR FAN MOTOR	Q1, Q2	TRANSISTOR

● Schematic Diagram

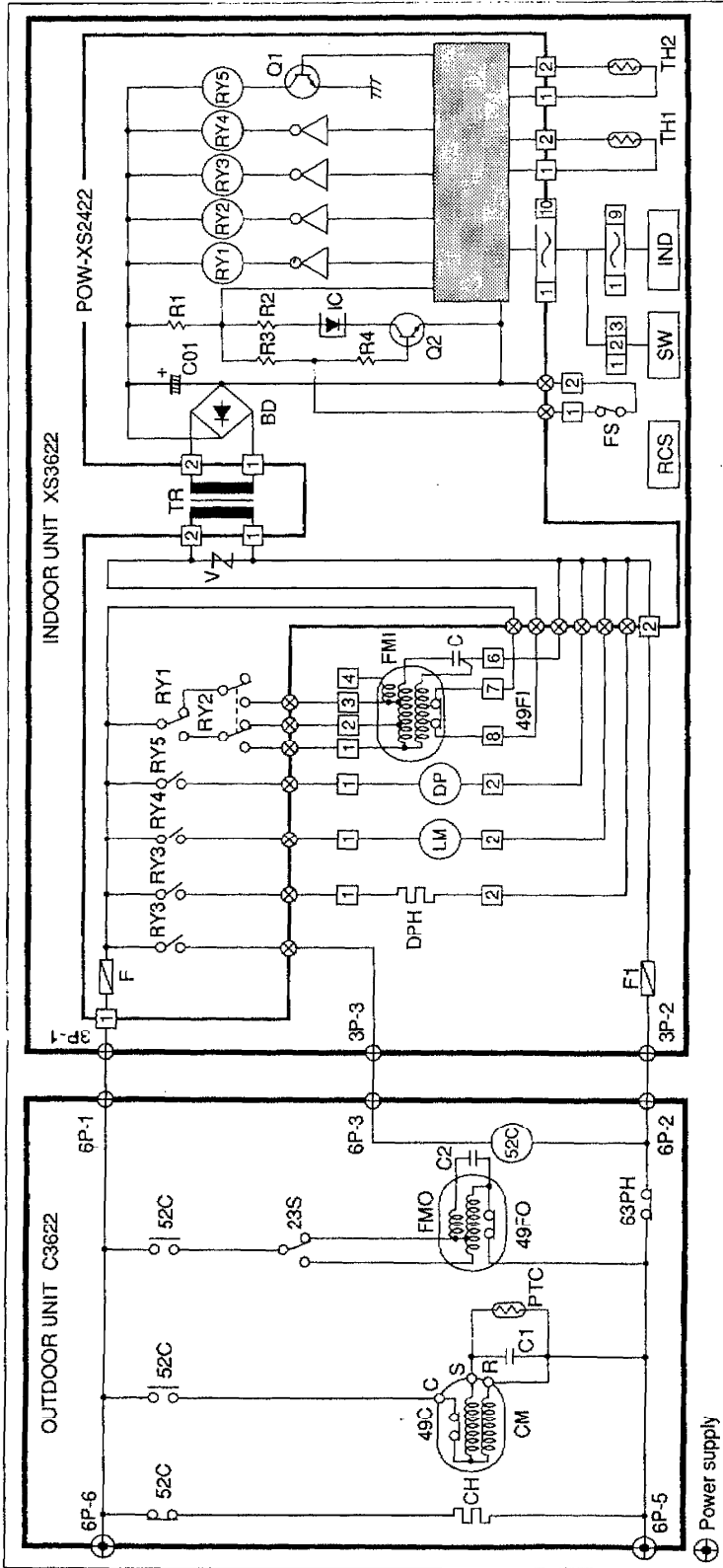
XS2422 / CL2422



Symbol	Description	Symbol	Description
OUTDOOR UNIT		LV	LOUVER MOTOR
CH	CRANK CASE HEATER	DP	DRAIN PUMP
CM	COMPRESSOR MOTOR	FMI	INDOOR FAN MOTOR
49C	COMPRESSOR MOTOR INTERNAL PROTECTOR	C	CAPACITOR
PTC	THERMISTOR	49FI	INDOOR FAN MOTOR INTERNAL PROTECTOR
23S	OUTDOOR AIR TEMP. THERMOSTAT	TR	TRANSFORMER
FMO	OUTDOOR FAN MOTOR	T1, T2, T3	THERMISTOR (COIL TEMP. SENSOR)
49FO	OUTDOOR FAN MOTOR INTERNAL PROTECTOR	T1, T2	THERMISTOR (ROOM TEMP. SENSOR)
C1, C2	CAPACITOR	FS	FLOAT SWITCH
SSR	SOLID STATE RELAY	IND	IND LAMP ASS'Y IND-TS2422
TR2	TRANSFORMER	SW	SWITCH ASS'Y SW-TS2422
IX	RELAY	RC3	WIRELESS REMOTE CONTROL UNIT RCS-KS2412W
THR	THERMISTOR (AIR SENSOR)	POW-XS2422	CONTROLLER PCB ASS'Y
THC	THERMISTOR (COIL SENSOR)	F	FUSE 250V, 3A
52C	ELECTRO-MAGNETIC CONTACTOR	V	VARIABLE
POW-CL2412		BD	BRIDGE DIODE
F2	FUSE 250V, 5A	C01	CAPACITOR
V2	VARIABLE	RT-R4	RESISTOR
INDOOR UNIT		IC	IC
F1	FUSE 250V, 10A	RY1-RY5	AUXILIARY RELAY
DPH	DEW PROOF HEATER	Q1, Q2	TRANSISTOR

● Schematic Diagram

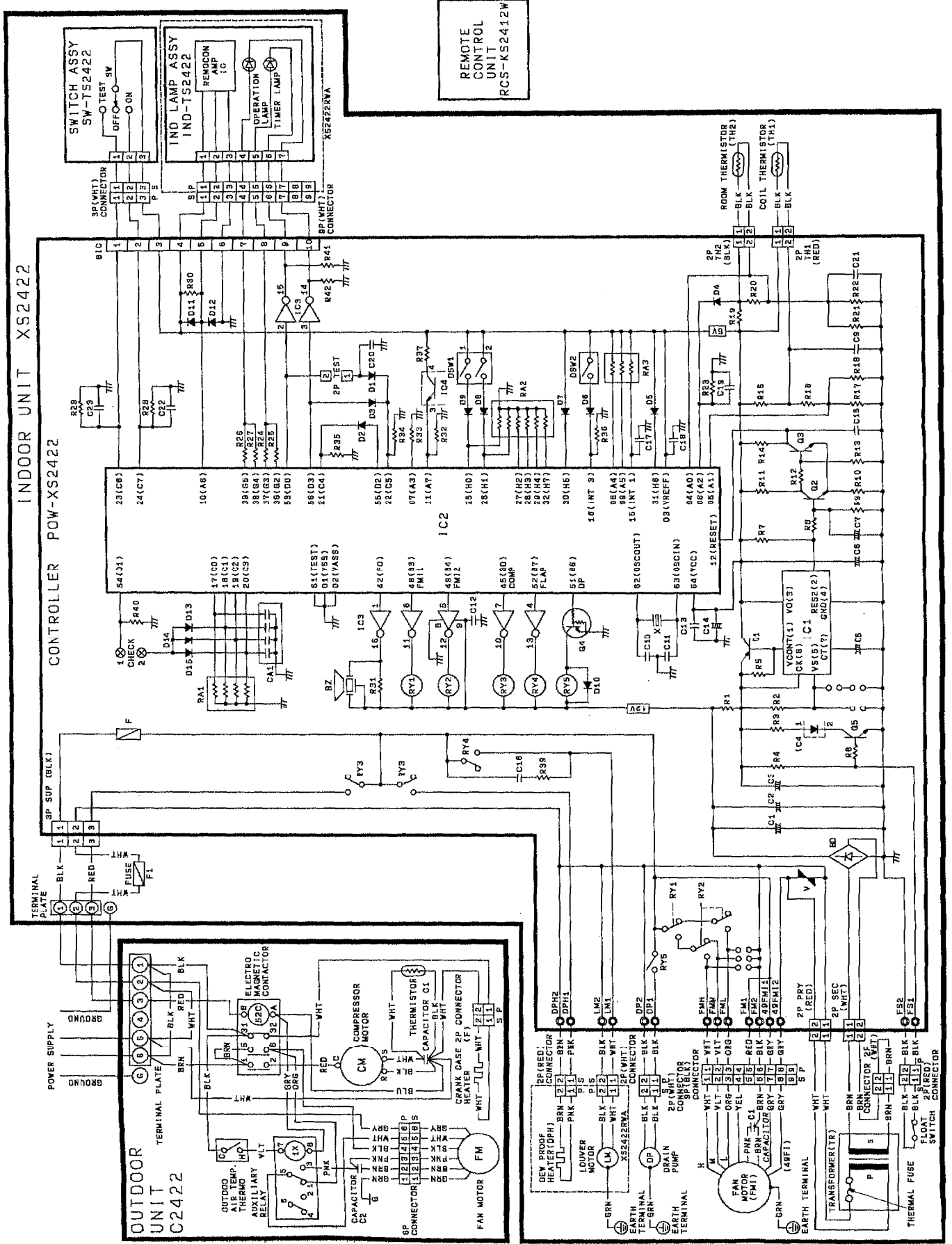
XS3622 / C3622



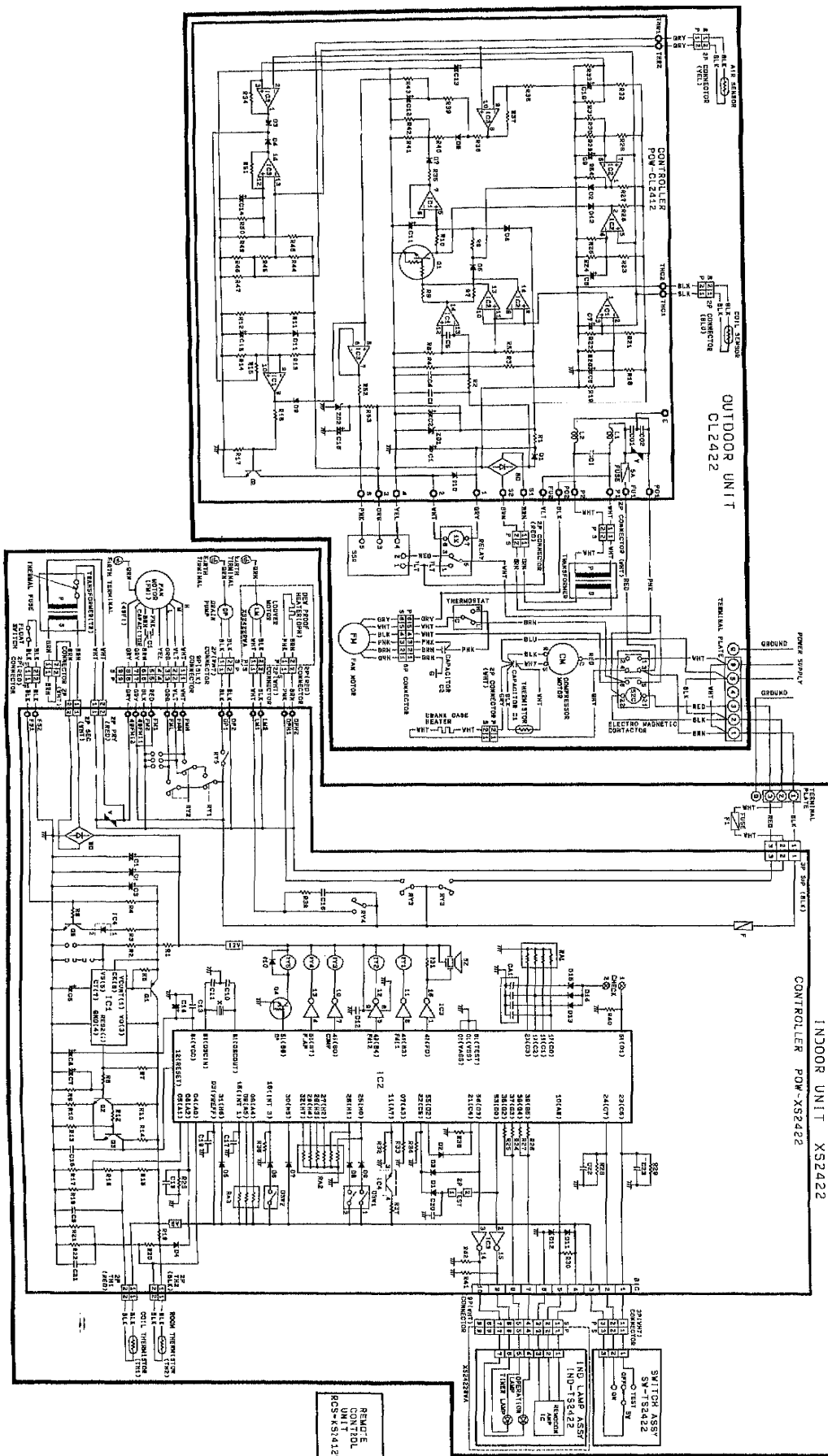
Symbol	Description	Symbol	Description
C	CAPACITOR	C	CAPACITOR
49FI	CRANK CASE HEATER	49FI	INDOOR FAN MOTOR INTERNAL PROTECTOR
CM	COMPRESSOR MOTOR	TR	TRANSFORMER
49C	COMPRESSOR MOTOR INTERNAL PROTECTOR	TH1	THERMISTOR (COIL TEMP. SENSOR)
PTC	THERMISTOR	TH2	THERMISTOR (ROOM TEMP. SENSOR)
23S	THERMOSTAT	FS	FLOAT SWITCH
FMO	OUTDOOR FAN MOTOR	IND	IND. LAMP ASS'Y IND-1S2422
49FO	OUTDOOR FAN MOTOR INTERNAL PROTECTOR	SW	SWITCH ASS'Y SW-TS2422
C1, C2	CAPACITOR	RCS	WIRELESS REMOTE CONTROL UNIT RCS-KS3412W
52C	ELECTRO-MAGNETIC CONTACTOR	POW-XS2422	CONTROLLER PCB ASS'Y
63PH	HIGH PRESSURE SWITCH	F	FUSE 250V, 3A
		V	VARIABLE
		BD	BRIDGE DIODE
		C01	CAPACITOR
		R1 - R4	RESISTOR
		IC	IC
		RY1 - RY5	AUXILIARY RELAY
		Q1, Q2	TRANSISTOR

● Electric Wiring Diagram (PCB Ass'y)

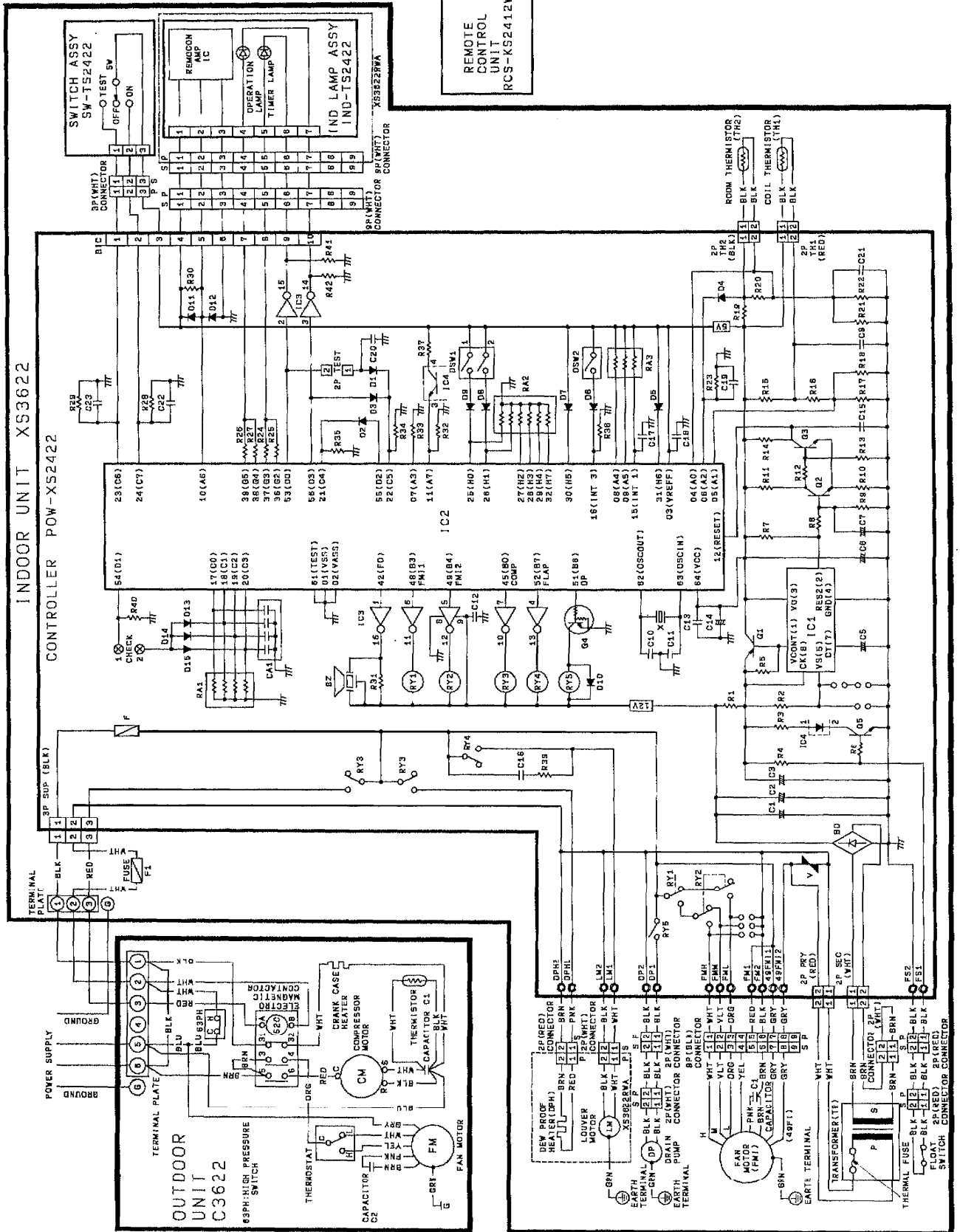
XS2422 / C2422



● Electric Wiring Diagram (PCB Assy)
XS2422 / CL2422



● Electric Wiring Diagram (PCB Assy)
XS3622 / C3622



POW-XS2422

Symbol	Description	Specifications
R1	RESISTOR	5.6Ω 1/2W ±5%
R2	RESISTOR	27K 1/4W ±5%
R3	RESISTOR	1K 1/4W ±5%
R4	RESISTOR	10K 1/4W ±5%
R5	RESISTOR	390Ω 1/4W ±5%
R6	RESISTOR	5.6K 1/4W ±5%
R7	RESISTOR	1K 1/4W ±5%
R8	RESISTOR	27K 1/4W ±5%
R9	RESISTOR	22K 1/4W ±5%
R10	RESISTOR	560Ω 1/4W ±5%
R11	RESISTOR	4.7K 1/4W ±5%
R12	RESISTOR	5.6K 1/4W ±5%
R13	RESISTOR	8.2K 1/4W ±5%
R14	RESISTOR	4.7K 1/4W ±5%
R15	RESISTOR	12K 1/4W ±1%
R16	RESISTOR	750Ω 1/4W ±1%
R17	RESISTOR	6.8K 1/4W ±1%
R18	RESISTOR	10K 1/4W ±1%
R19	RESISTOR	180Ω 1/4W ±1%
R20	RESISTOR	15K 1/4W ±1%
R21	RESISTOR	6.2K 1/4W ±1%
R22	RESISTOR	11K 1/4W ±1%
R23	RESISTOR	100K 1/4W ±5%
R24	RESISTOR	270Ω 1/4W ±1%
R25	RESISTOR	270Ω 1/4W ±5%
R26	RESISTOR	270Ω 1/4W ±5%
R27	RESISTOR	270Ω 1/4W ±5%
R28	RESISTOR	5.6K 1/4W ±5%
R29	RESISTOR	5.6K 1/4W ±5%
R30	RESISTOR	100K 1/4W ±5%
R31	RESISTOR	6.8K 1/4W ±5%
R32	RESISTOR	56K 1/4W ±5%
R33	RESISTOR	56K 1/4W ±5%
R34	RESISTOR	56K 1/4W ±5%
R35	RESISTOR	56K 1/4W ±5%
R36	RESISTOR	56K 1/4W ±5%
R37	RESISTOR	1K 1/4W ±5%
R39	RESISTOR	100Ω 1W ±1%
R40	RESISTOR	56K 1/4W ±5%
R41	RESISTOR	56K 1/4W ±5%
R42	RESISTOR	56K 1/4W ±5%
C1	CAPACITOR	2200μF 25V
C2	CAPACITOR	1μF 50V
C3	CAPACITOR	10μF 50V
C5	CAPACITOR	1μF 50V
C6	CAPACITOR	220μF 16V
C7	CAPACITOR	1μF 50V
C9	CAPACITOR	104 50V
C10	CAPACITOR	30P 50V
C11	CAPACITOR	30P 50V
C12	CAPACITOR	473 50V
C13	CAPACITOR	104 50V
C14	CAPACITOR	100μF 10V
C15	CAPACITOR	223 50V
C16	CAPACITOR	0.01μF 250V
C17	CAPACITOR	472 50V
C18	CAPACITOR	223 50V
C19	CAPACITOR	223 50V
C20	CAPACITOR	223 50V

POW-XS2422

Symbol	Description	Specifications
C21	CAPACITOR	104 50V
C22	CAPACITOR	472 50V
C23	CAPACITOR	472 50V
RA1	RESISTOR ARAY	56K 4BIT
RA2	RESISTOR ARAY	56K 8BIT
RA3	RESISTOR ARAY	20K 3BIT
CA1	CPACITOR ARAY	472 4BIT
D1	DIODE	DS446
D2	DIODE	DS446
D3	DIODE	DS446
D4	DIODE	DS446
D5	DIODE	DS446
D6	DIODE	DS446
D7	DIODE	DS446
D8	DIODE	DS446
D9	DIODE	DS446
D10	DIODE	DS446
D11	DIODE	DS446
D12	DIODE	DS446
D13	DIODE	DS446
D14	DIODE	DS446
D15	DIODE	DS446
BD	BRIDGE DIODE	DBA10C
IC1	IC	LA5693D
IC2	IC (MICON)	TMS73C161-C76577
IC3	IC	IR1234
IC4	IC	PC817
Q1	TRANSISTOR	2SA1289
Q2	TRANSISTOR	2SC536
Q3	TRANSISTOR	2SC536
Q4	TRANSISTOR	3402
Q5	TRANSISTOR	2SC536
V	VARISTOR	DVSNR661KD14N
X	OSCILLATOR	CSA4.00MG
F	FUSE	250V, 3A
BZ	BUZZER	PKM24SP-3805
DSW1	SWITCH	JKS1120-0402
DSW1	SWITCH	JKS1120-0402
RY1	RELAY	VB12TBU
RY2	RELAY	VB12TBU
RY3	RELAY	VB12TBU
RY4	RELAY	LZG-12HE
RY5	RELAY	LZG-12HE
3P SUP	CONNECTOR	2-173270-3
2P PRY	CONNECTOR	8-173270-2
2P SEC	CONNECTOR	5273-02A
2P TEST	CONNECTOR	NHK-P2T-N
2P TH1	CONNECTOR	8-171825-2
2P TH2	CONNECTOR	2-171825-2
⊗	BOARD PIN	
□	BIC	PD054-09M
⊙	BOARD IN CONNECTOR	

POW-CL2412

Symbol	Description	Specifications
R1	RESISTOR	240Ω 2W ±5%
R2	RESISTOR	5.6K 1/4W ±5%
R3	RESISTOR	18K 1/4W ±5%
R4	RESISTOR	3.3K 1/4W ±5%
R5	RESISTOR	22K 1/4W ±5%
R6	RESISTOR	5.1K 1/4W ±5%
R7	RESISTOR	22K 1/4W ±5%
R8	RESISTOR	10K 1/4W ±5%
R9	RESISTOR	910K 1/4W ±5%
R10	RESISTOR	510K 1/4W ±5%
R11	RESISTOR	150K 1/4W ±5%
R12	RESISTOR	300K 1/4W ±5%
R13	RESISTOR	5.6K 1/4W ±5%
R14	RESISTOR	7.5K 1/4W ±5%
R15	RESISTOR	1.2K 1/4W ±5%
R16	RESISTOR	7.5K 1/4W ±5%
R17	RESISTOR	2.2K 1/4W ±5%
R18	RESISTOR	27K 1/4W ±1%
R19	RESISTOR	3.6K 1/4W ±1%
R20	RESISTOR	180K 1/4W ±5%
R21	RESISTOR	22K 1/4W ±1%
R22	RESISTOR	100K 1/4W ±1%
R23	RESISTOR	27K 1/4W ±1%
R24	RESISTOR	3K 1/4W ±1%
R25	RESISTOR	39K 1/4W ±5%
R26	RESISTOR	13K 1/4W ±5%
R27	RESISTOR	13K 1/4W ±5%
R28	RESISTOR	27K 1/4W ±1%
R29	RESISTOR	4.7K 1/4W ±1%
R30	RESISTOR	120K 1/4W ±5%
R31	RESISTOR	1.5K 1/4W ±1%
R32	RESISTOR	27K 1/4W ±1%
R33	RESISTOR	36K 1/4W ±5%
R34	RESISTOR	120K 1/4W ±5%
R35	RESISTOR	560Ω 1/4W ±1%
R36	RESISTOR	5.1K 1/4W ±1%
R37	RESISTOR	36K 1/4W ±1%
R38	RESISTOR	1.5K 1/4W ±1%
R39	RESISTOR	75K 1/4W ±5%
R40	RESISTOR	750Ω 1/4W ±1%
R41	RESISTOR	300Ω 1/4W ±1%
R43	RESISTOR	100Ω 1/4W ±5%
R44	RESISTOR	15K 1/4W ±1%
R45	RESISTOR	1.6K 1/4W ±1%
R47	JUMPER	
R48	RESISTOR	5.6K 1/4W ±1%
R49	RESISTOR	510Ω 1/4W ±1%
R50	RESISTOR	12K 1/4W ±5%
R51	RESISTOR	200K 1/4W ±5%
R52	RESISTOR	200Ω 1/4W ±5%
R53	RESISTOR	4.7K 1/4W ±5%
R54	RESISTOR	75K 1/4W ±5%
C1	CAPACITOR	470μF 50V
C2	CAPACITOR	22μF 25V
C3	CAPACITOR	473Z
C4	CAPACITOR	473Z
C5	CAPACITOR	223Z
C6	CAPACITOR	22μF 25V
C7	CAPACITOR	22μF 25V
C8	CAPACITOR	22μF 25V
C9	CAPACITOR	22μF 25V

POW-CL2412

Symbol	Description	Specifications
C10	CAPACITOR	22μF 25V
C11	CAPACITOR	470μF 16V
C12	CAPACITOR	100μF 16V
C13	CAPACITOR	22μF 25V
C14	CAPACITOR	22μF 25V
C15	CAPACITOR	22μF 16V
C16	CAPACITOR	22μF 25V
C1	CAPACITOR	0.22μF 630V
CO1	CAPACITOR	3300PF 630V
CO2	CAPACITOR	3300PF 630V
D1	DIODE	DSF10C
D2	DIODE	DS446
D3	DIODE	DS446
D4	DIODE	DS446
D5	DIODE	DS446
D6	DIODE	DS446
D7	DIODE	DS446
D8	DIODE	DS446
D9	DIODE	DS446
D10	DIODE	DS446
D11	DIODE	DS446
D12	DIODE	DS446
BD	BRIDGE DIODE	DBA10C
ZD1	ZENER DIODE	GZB-12C
ZD2	ZENER DIODE	GZA6. 2X
IC1	IC	NJM2902N
IC2	IC	LA6339
IC3	IC	NJM2902N
Q1	TRANSISTOR	2SC 340D
Q2	TRANSISTOR	2SC 2274 (E or F)
V	VARISTOR	SNR-14A420K
F	FUSE	250V, 5A
L1	FILTER COIL	SN12-500
L2	FILTER COIL	SN12-500
Ⓢ	BOARD IN CONNECTOR	

6. TROUBLESHOOTING

6-1 Check before and after troubleshooting.

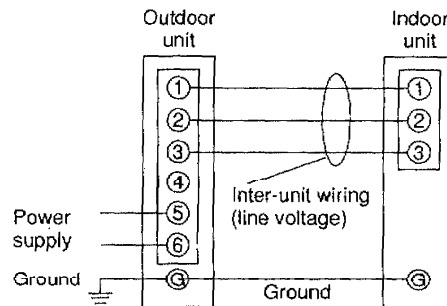
(1) Check power supply wiring.

- Check that power supply wires are correctly connected to terminals No. 5 and No. 6 on the 6P terminal plate in the outdoor unit.

(2) Check inter-unit wiring.

- Check that inter-unit wires are correctly connected to indoor unit from outdoor unit.

Power supply:
60Hz, single-phase, 230/208V



(3) Check power supply.

- Check that voltage is in specified range ($\pm 10\%$ of the rating).
- Check that power is being supplied.



WARNING:

If the following troubleshooting must be done with power being supplied, be careful about any uninsulated live part that can cause **ELECTRIC SHOCK**.

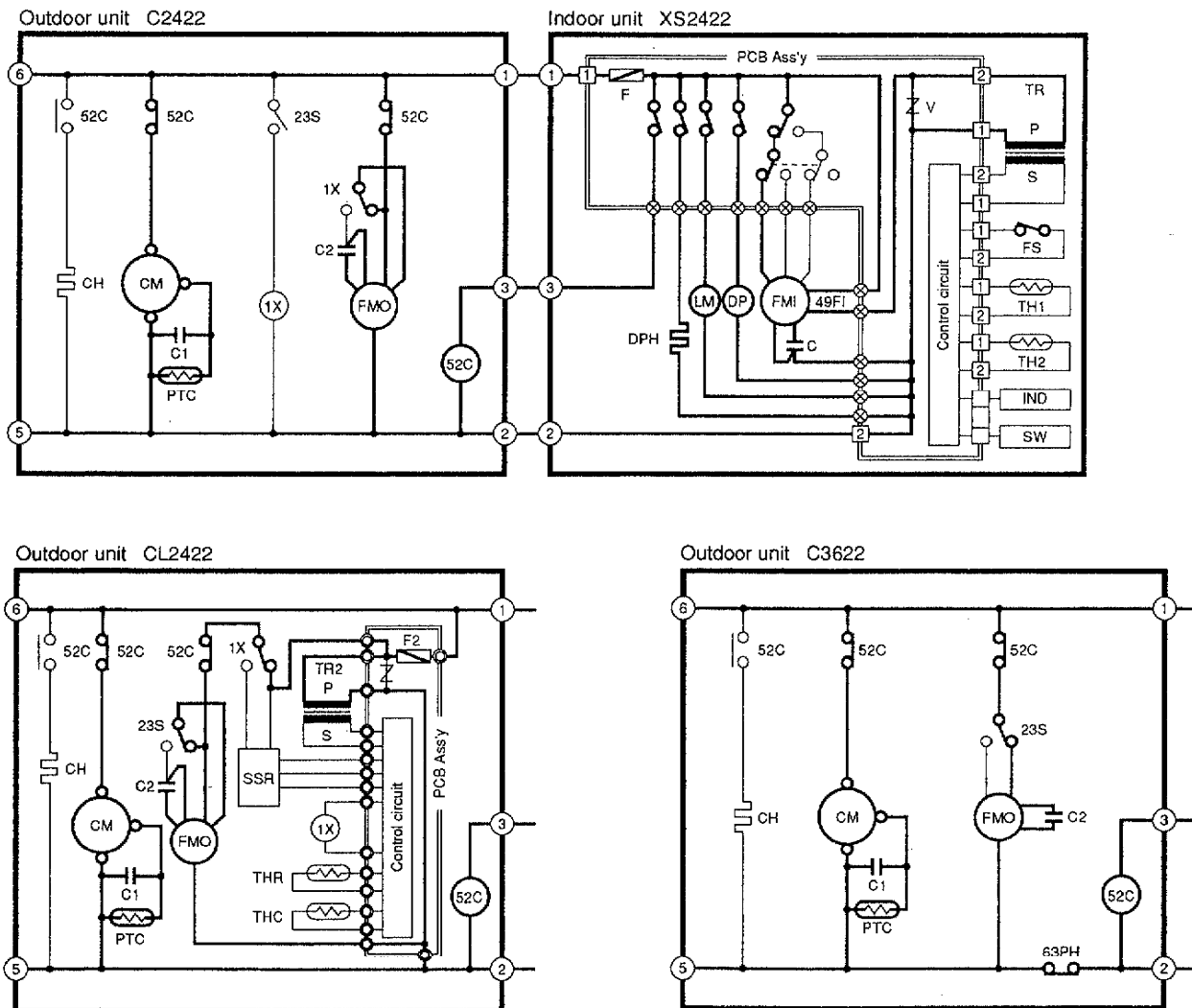
(4) Check lead wires and connectors in indoor and outdoor units.

- Check that coating of lead wires is not damaged.
- Check that lead wires and connectors are connected firmly.
- Check that wiring is correct.

(5) Reference

(a) Condition of general cooling operation

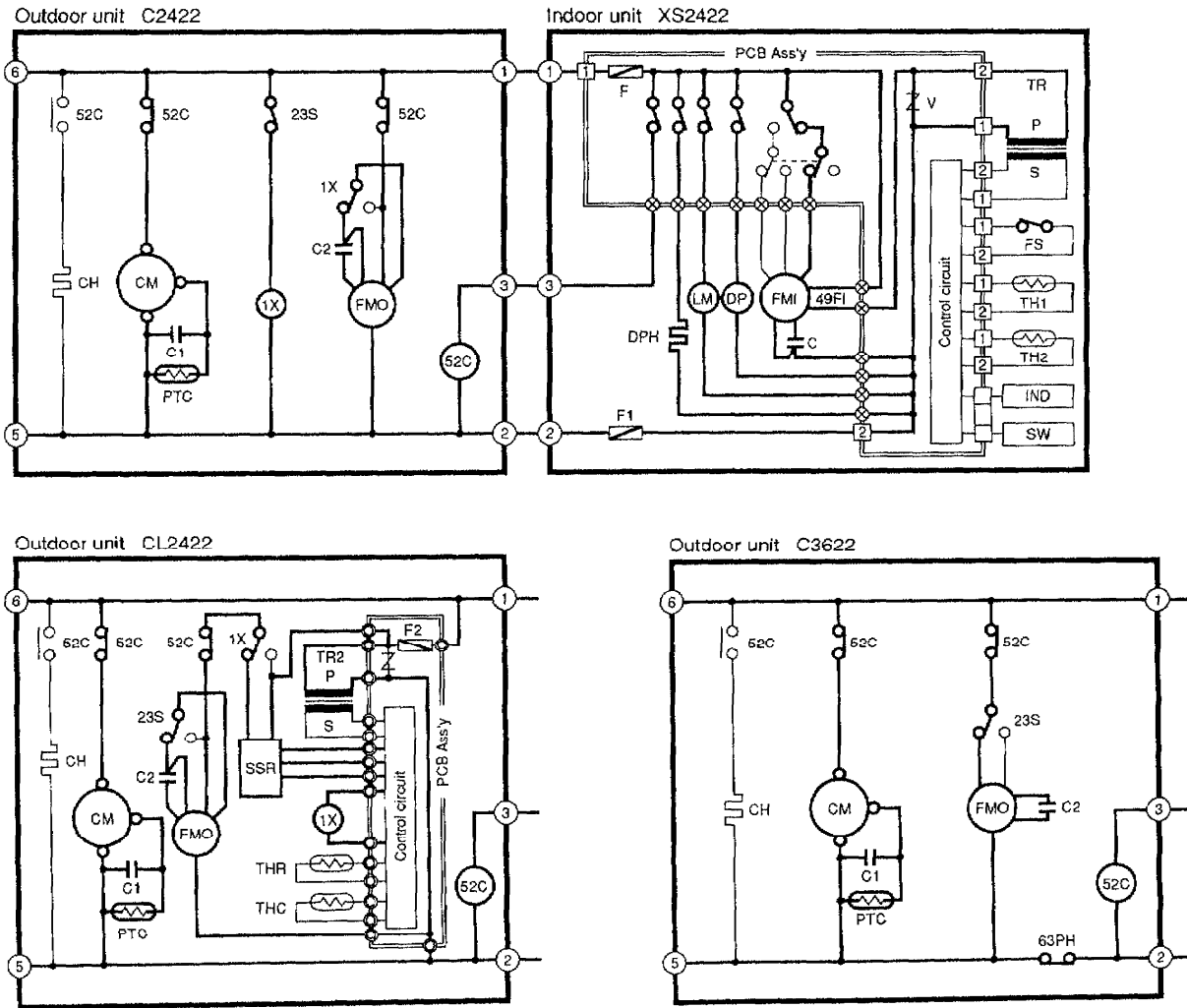
- ON/OFF operation button..... ON
 - COOL/FAN selector switch..... COOL
 - SWEEP button..... ON
 - Indoor fan speed HIGH
 - Thermo..... ON
 - Outdoor air temperature..... above 79°F
- (Electric wiring diagram is same for XS2422 and XS3622.)



(b) Condition of cooling operation under low ambient temperature.

- ON/OFF operation button..... ON
- COOL/FAN selector switch..... COOL
- SWEEP button ON
- Indoor fan speed LOW
- Thermo. ON
- Outdoor air temperature..... below 75°F (Only CL2422: below 59°F)

(Electric wiring diagram is same for XS2422 and XS3622.)



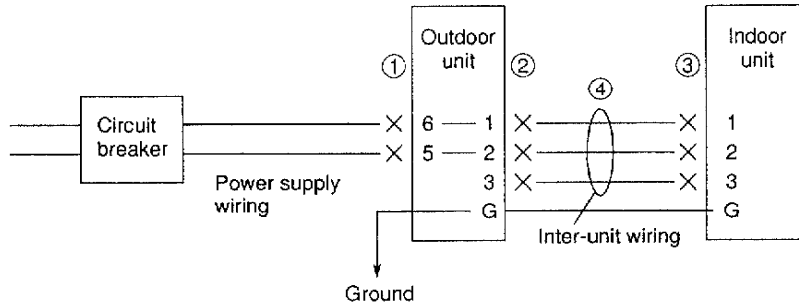
6-2 Air conditioner does not operate.

(1) Circuit breaker trips (or fuse blows).

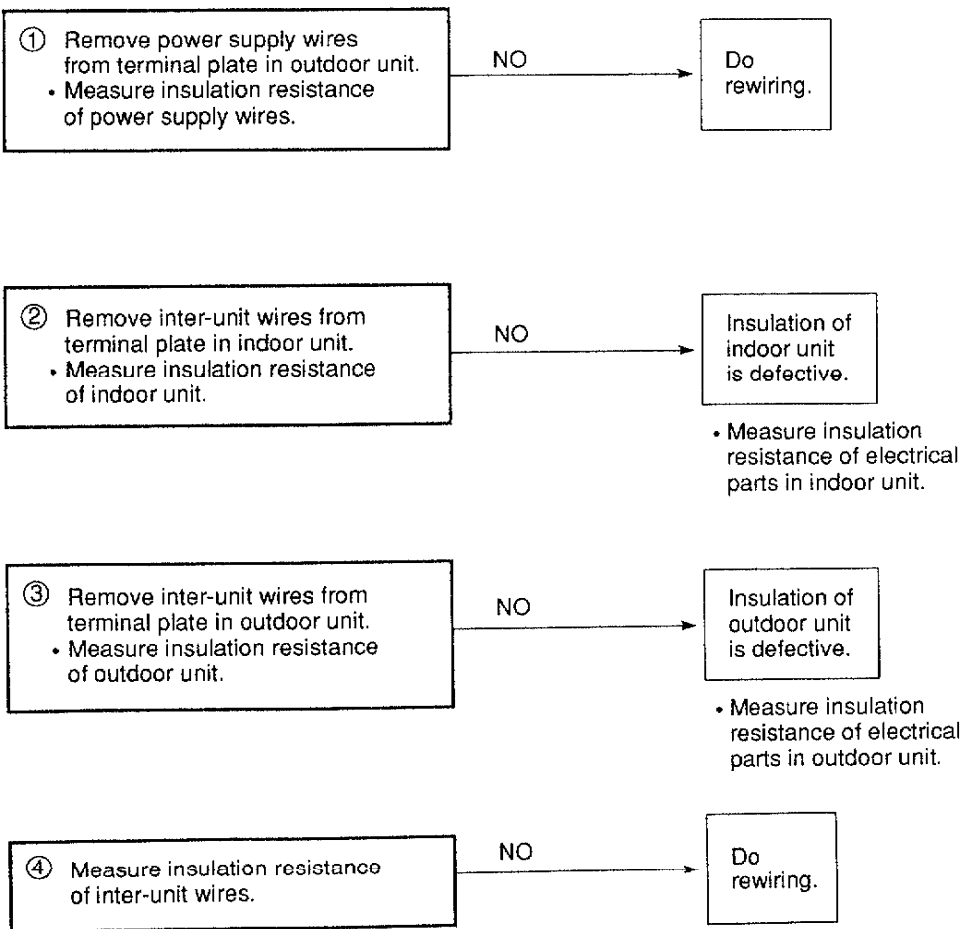
(a) When circuit breaker is set to ON, it trips in a few moments (resetting is not possible).

- There is a possibility of ground fault.
- Measure insulation resistance.

If resistance value is $1M\Omega$ or less, insulation is defective ("NO").



*Set circuit breaker to OFF.



(b) Circuit breaker trips in several minutes after turning the air conditioner ON.

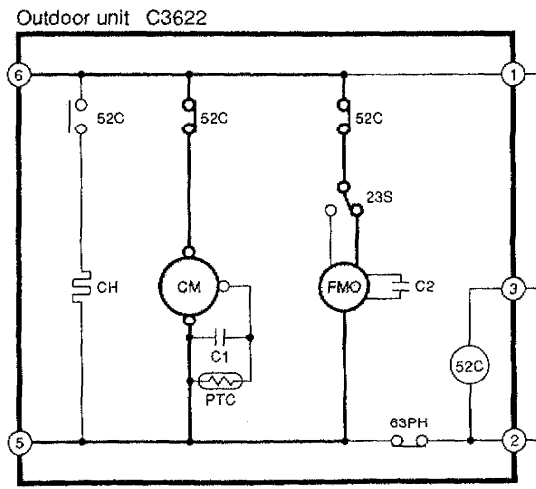
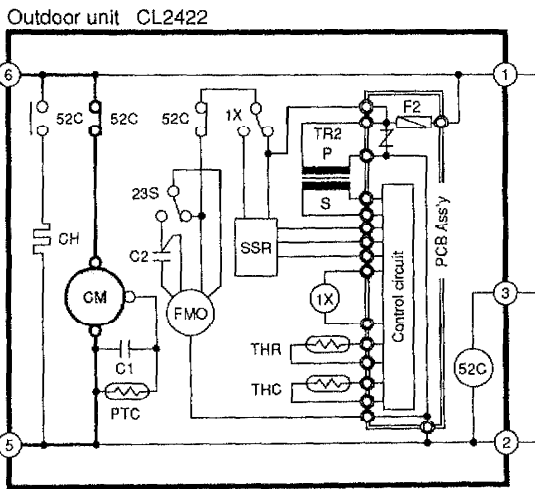
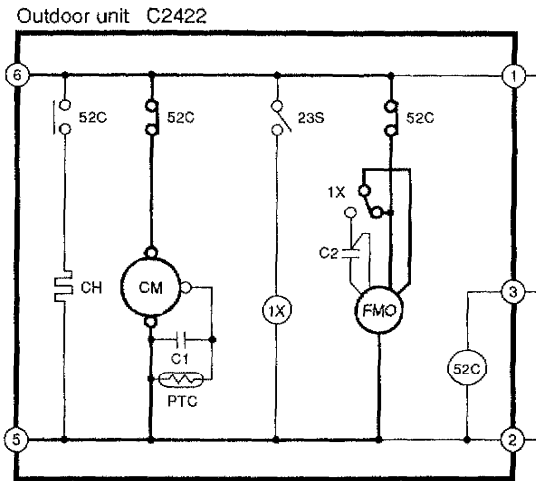
- There is a possibility of short circuit.

• Check capacity of circuit breaker.
Is capacity of circuit breaker suitable?

Replace it with suitable one (larger capacity).

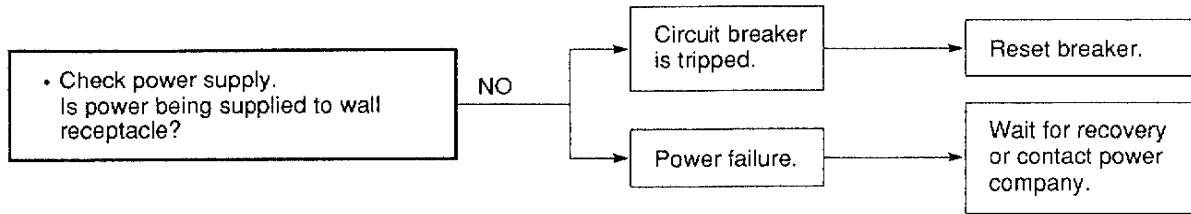
• Measure resistance of compressor motor winding.

• Measure resistance of outdoor fan motor winding.

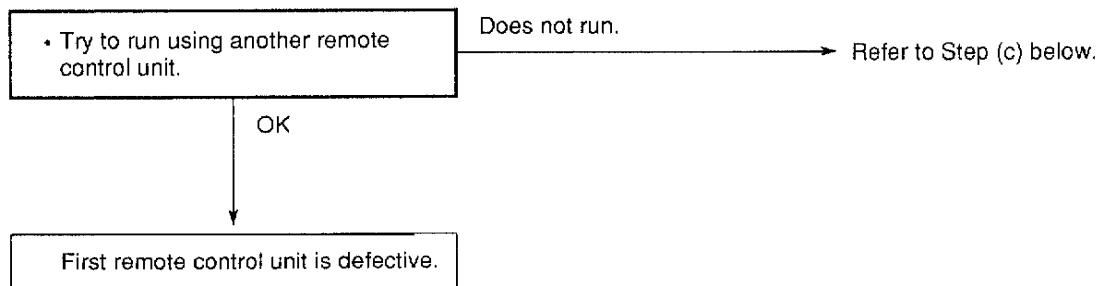


(2) Neither indoor unit nor outdoor unit runs.

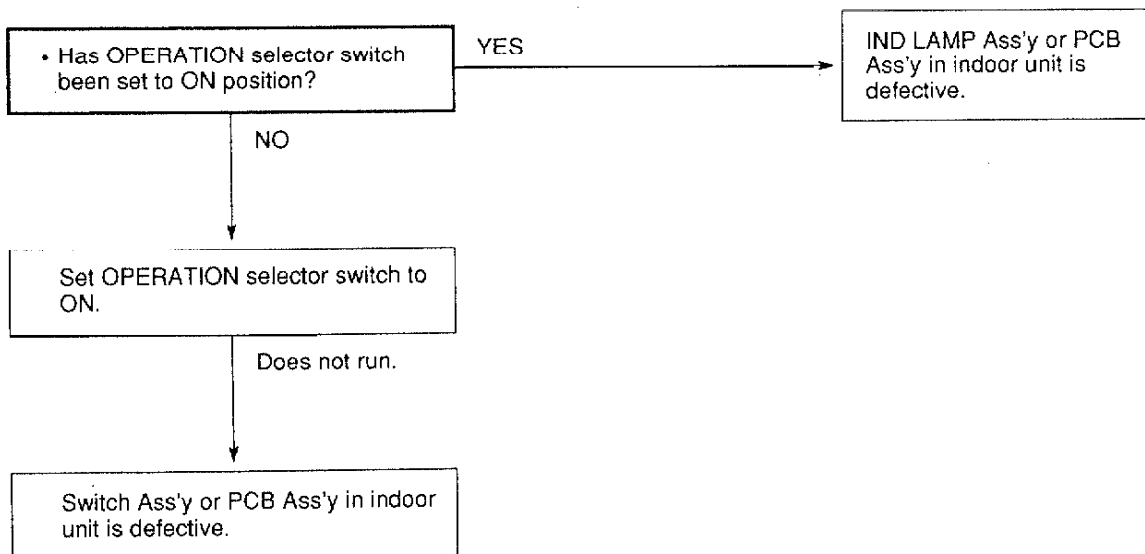
(a) Power is not supplied.



(b) Check remote control unit.



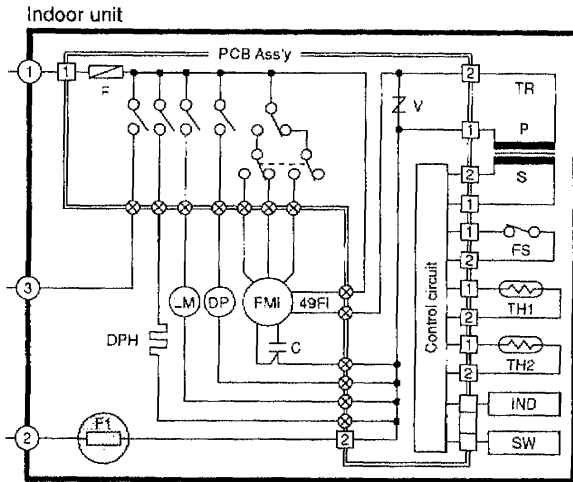
(c) Check OPERATION selector switch in indoor unit.



(Neither indoor unit nor outdoor unit runs.) (cont'd)

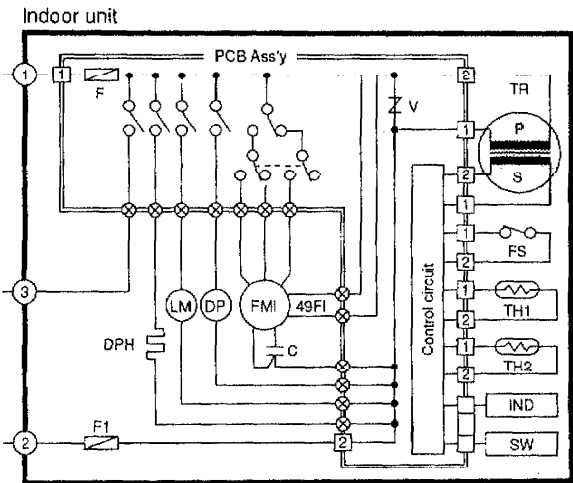
(d) Check fuse F1 in indoor unit.

• Check fuse F1 in the indoor unit for continuity.



(e) Check transformer in indoor unit.

• Measure resistance of transformer winding.



(Neither indoor unit nor outdoor unit runs.) (cont'd)

(f) Check thermal protector (49FI) in indoor fan motor.

- Disconnect the socket from 9P (BLK) connector.

• Check for continuity between No.7 and No.8 terminals of 9P socket.

No continuity.

• The thermal protector (49FI) is operated.

• Check fan rotation.
Turn fan gently once or twice by hand.

Fan cannot be turned.

• Check fan casing for foreign matter on inside.

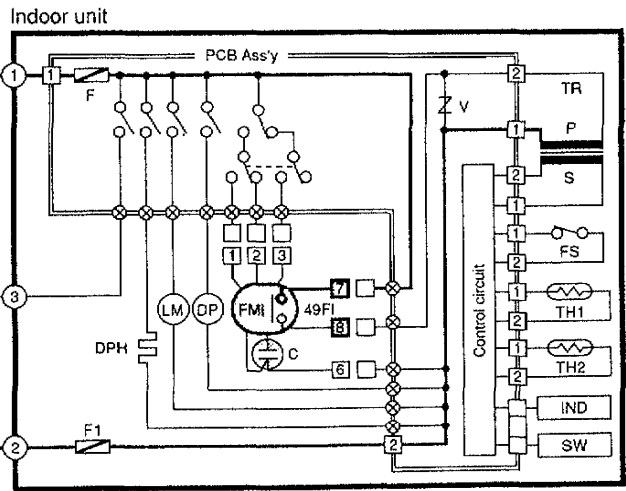
Remove foreign matter or repair.

Fan motor burnout or foreign matter in bearings.

Repair or replace.

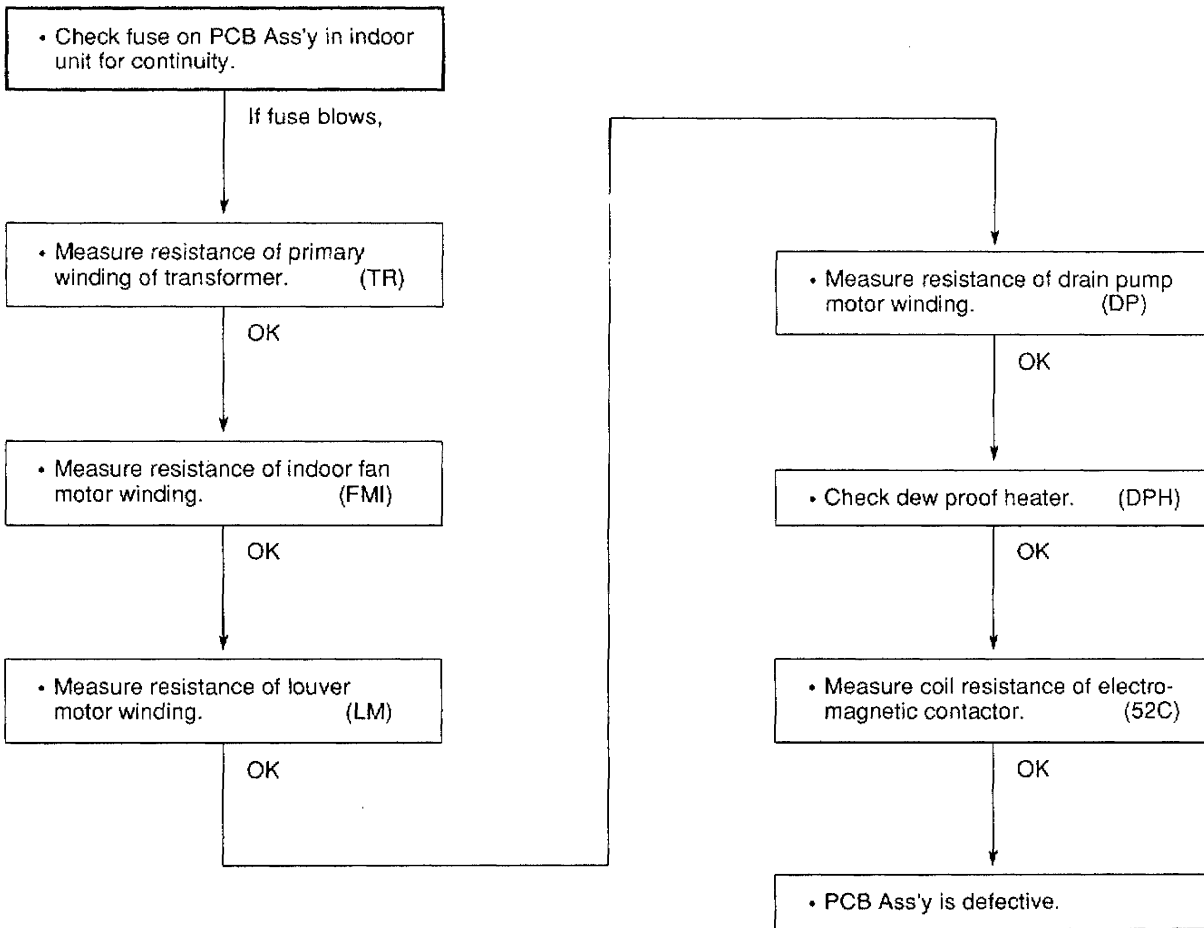
OK

• Check fan motor capacitor.

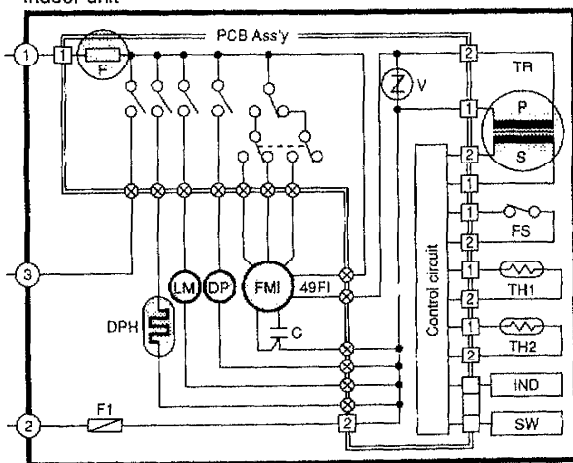


(Neither indoor unit nor outdoor unit runs.) (cont'd)

(g) Check fuse on PCB Ass'y in indoor unit.



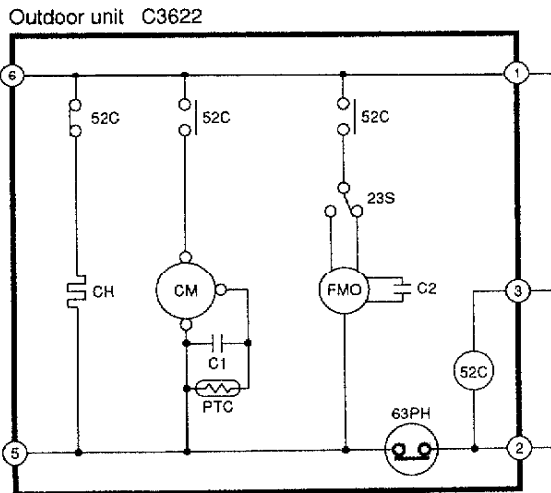
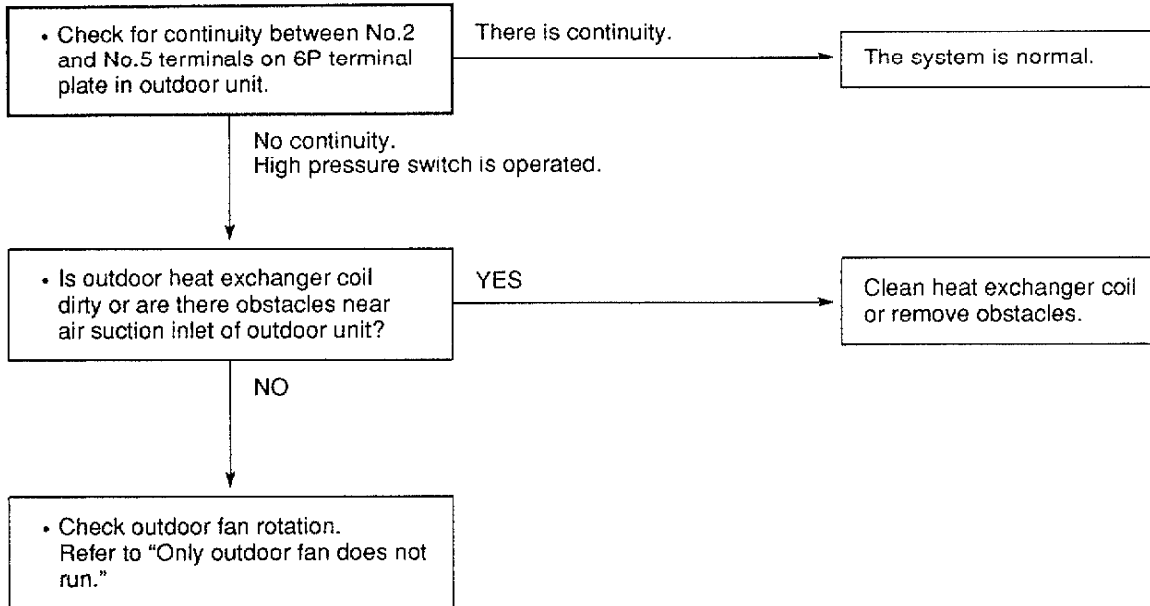
Indoor unit



(Neither indoor unit nor outdoor unit runs.) (cont'd)

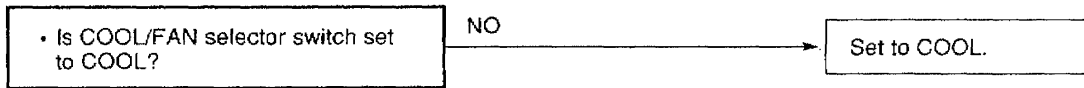
(h) Check high pressure switch (63PH) (C3622 only).

- System does not run when high pressure switch is operated.



(3) Only outdoor unit does not run.

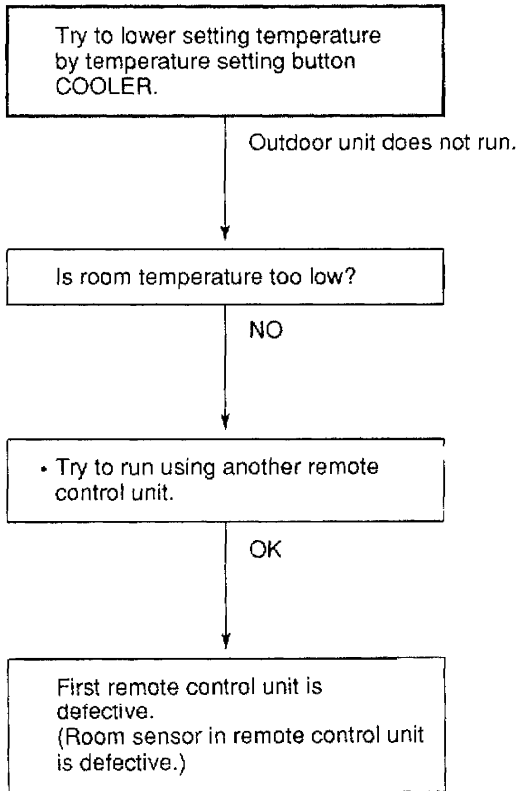
(a) Check COOL/FAN selector switch of remote control unit.



(b) Outdoor unit does not run when air conditioner is in following conditions.

- During thermo OFF (when the room temperature is below the setting temperature).
- During freeze prevention (for at least 6 minutes).

• Check setting temperature.

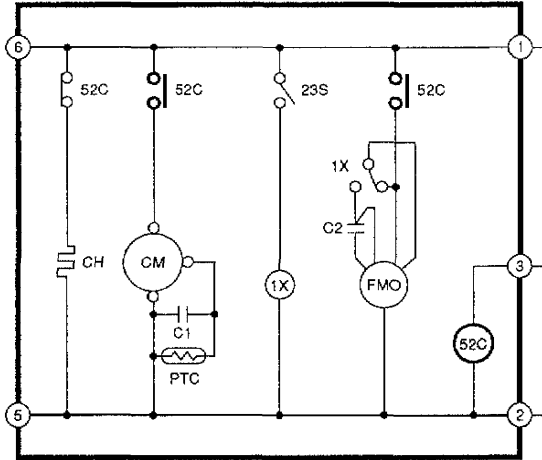


(Only outdoor unit does not run.) (cont'd)

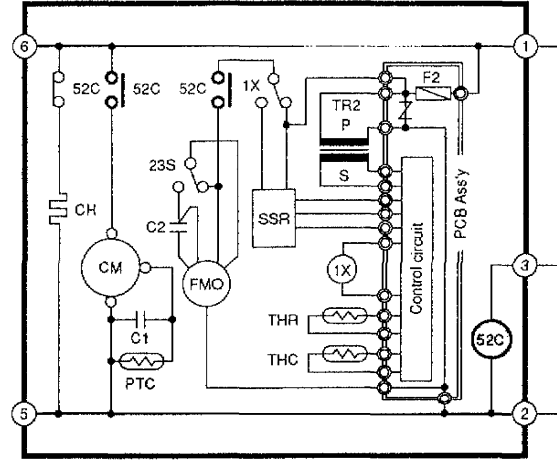
(c) Check electro-magnetic contactor.

• Measure coil resistance of electro-magnetic contactor.
(52C)

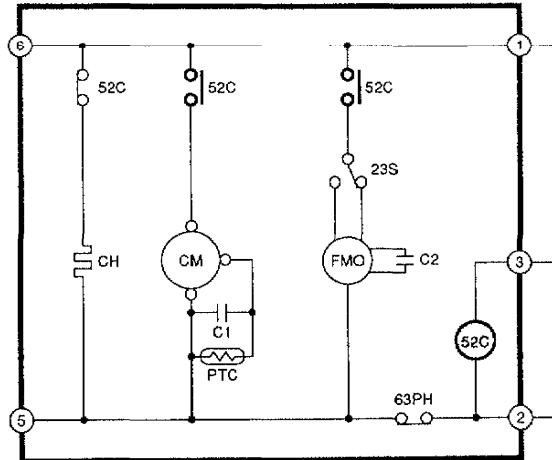
Outdoor unit C2422



Outdoor unit CL2422

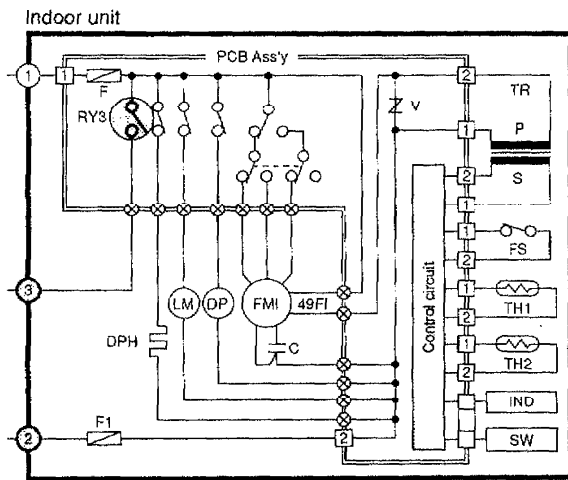
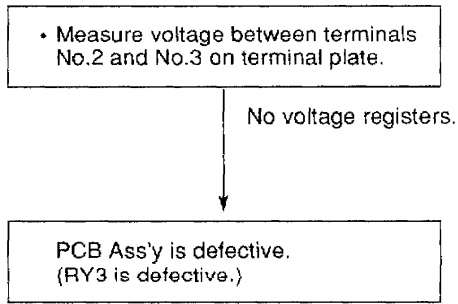


Outdoor unit C3622



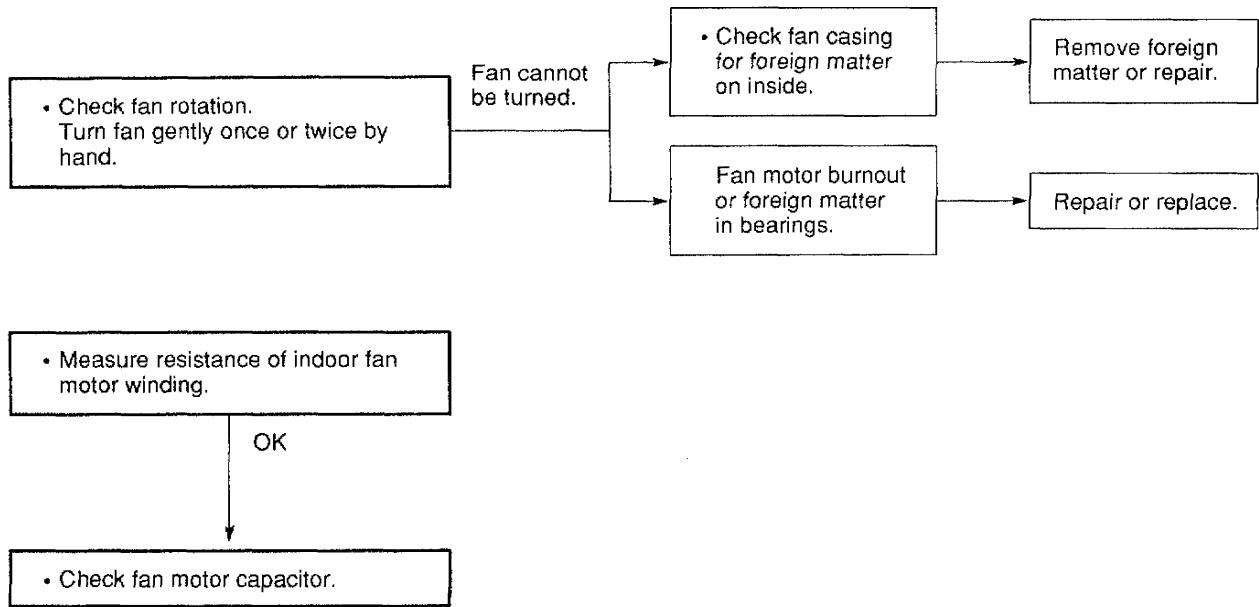
(Only outdoor unit does not run.) (cont'd)

(d) Check PCB Ass'y.

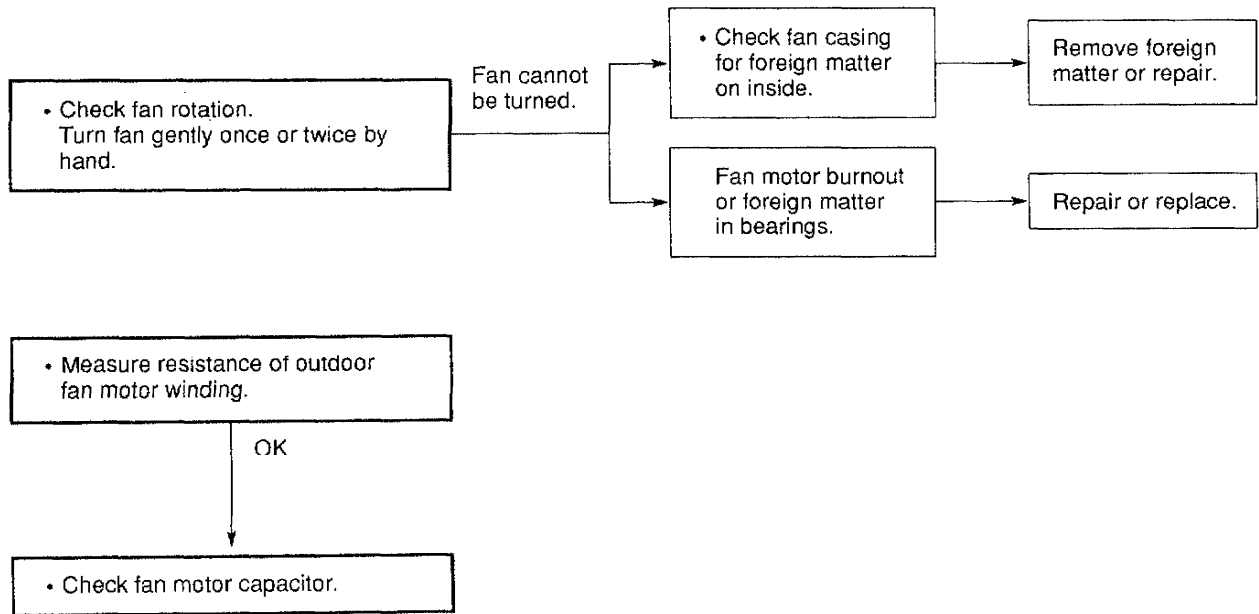


6-3 A particular component of air conditioner does not operate.

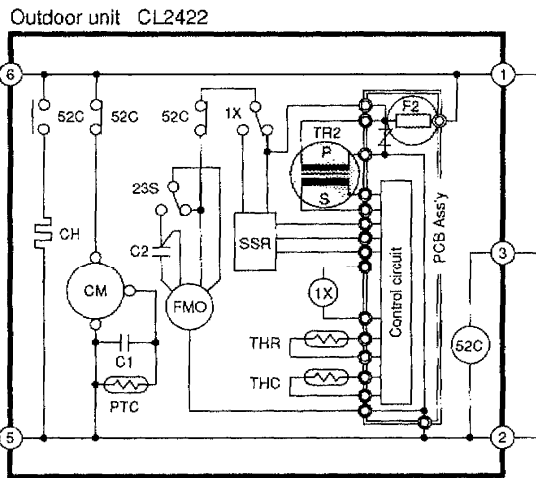
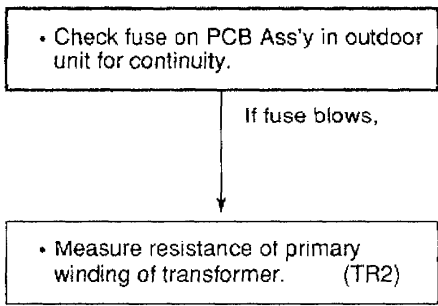
(1) Only indoor fan does not run.



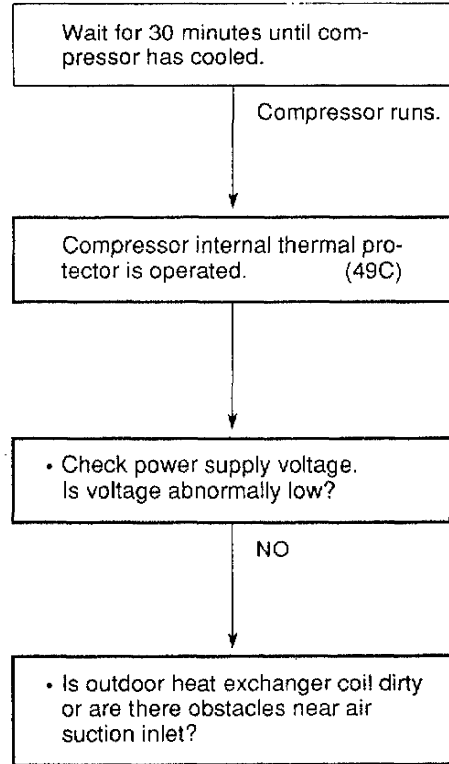
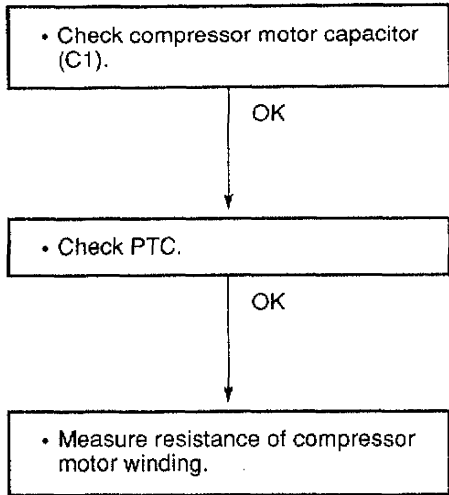
(2) Only outdoor fan does not run.



(3) Only outdoor fan does not run for CL2422.

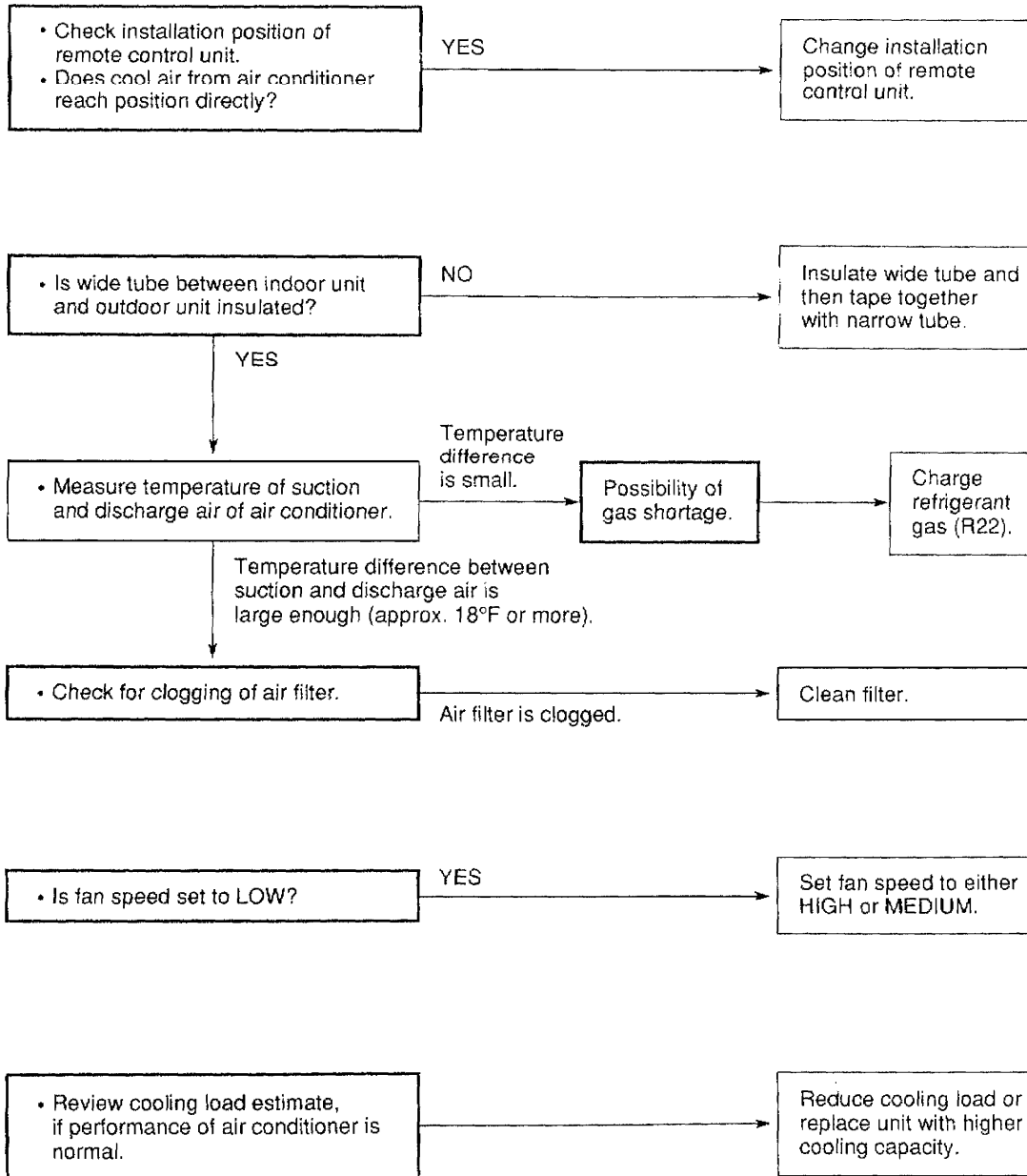


(4) Only compressor does not run.

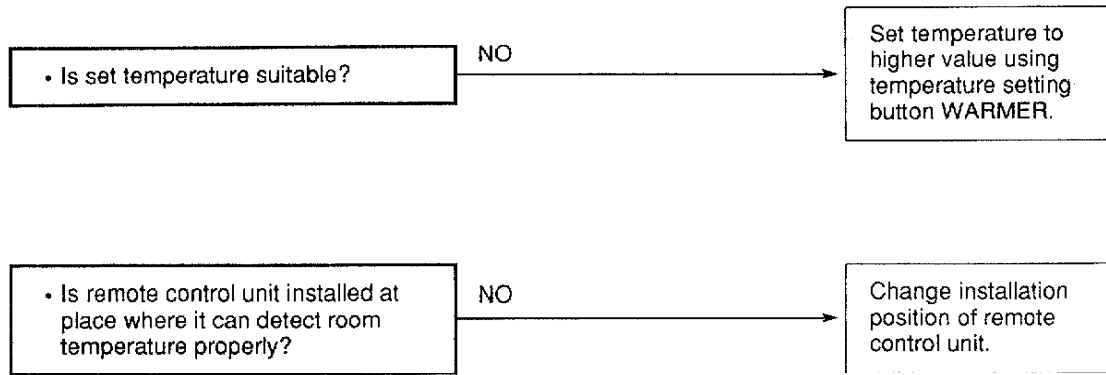


6-4 Air conditioner operates, but abnormalities occur.

(1) Poor Cooling



(2) Excessive Cooling



6-5 Indoor (heat exchanger) coil temperature sensor (TH1) is defective.

(1) Open

Even though the air conditioner does not thermo OFF, compressor and outdoor fan repeat ON for 10 minutes and OFF for 6 minutes.

(2) Shortage

When dehumidified water freezes in the indoor coil, the freeze prevention function does not work.

7. CHECKING ELECTRICAL COMPONENTS

7-1 Measurement of Insulation Resistance

- The insulation is in good condition if the resistance exceeds 1 MΩ.

(1) Power Supply Wires

Clamp the grounded 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 grounded wire and the other power wires. (Fig. 1)

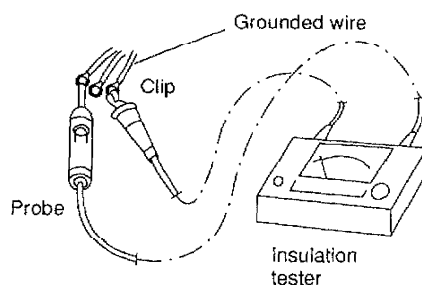


Fig. 1

(2) Indoor Unit

Clamp an aluminum plate fin or copper tube with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on ①, and then ② on the terminal plate. (Fig. 2)

(3) Outdoor Unit

Clamp a metallic part of the unit with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on ⑤, and then ⑥ on the terminal plate. (Fig. 2)

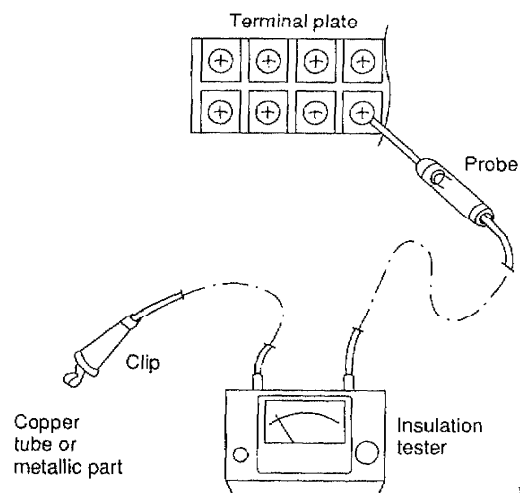


Fig. 2

(4) Measurement of Insulation Resistance for Electrical Parts

Disconnect the lead wires of the desired electric part from terminal plate, PCB Ass'y, capacitor, etc. Similarly disconnect the connector. Then measure the insulation resistance. (Figs. 1 to 4)

Refer to Electric Wiring Diagram.

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

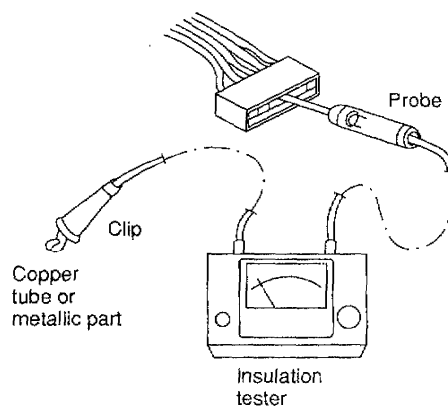


Fig. 3

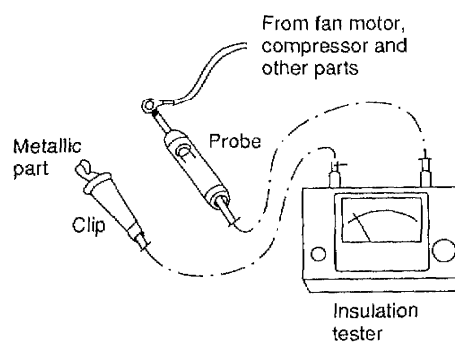


Fig. 4

7-2 Checking Continuity of Fuse on PCB Ass'y

- Check for continuity using a multimeter as shown in Fig. 5.

Note:

Method Used to Replace Fuse on PCB Ass'y

1. Remove the PCB Ass'y from the electrical component box.
2. Pull out the fuse at the metal clasp using pliers while heating the soldered leads on the back side of the PCB Ass'y with a soldering iron (30W or 60W). (Fig. 6)
3. Remove the fuse ends one by one. For replacement, insert a fuse of the same rating and solder it. (Allow time to radiate heat during soldering so that the fuse does not melt.)



CAUTION:

When replacing the fuse, be sure not to break down the varistor.

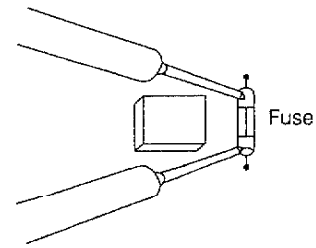


Fig. 5

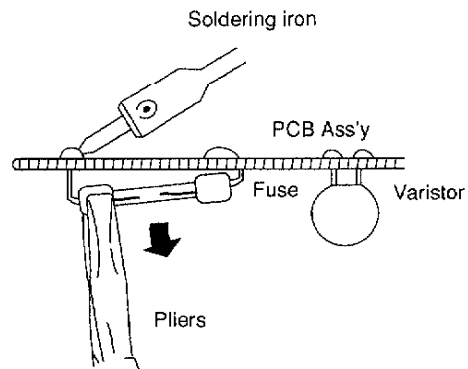


Fig. 6

7-3 Checking Motor Capacitor

Remove the lead wires from the capacitor terminals, and then place a probe on the capacitor terminals as shown in Fig. 7. Observe the deflection of the pointer, setting the resistance measuring range of the multimeter to the maximum value.

The capacitor is "good" if the pointer bounces to a great extent and then gradually returns to its original position.

The range of deflection and deflection time differ according to the capacity of the capacitor.

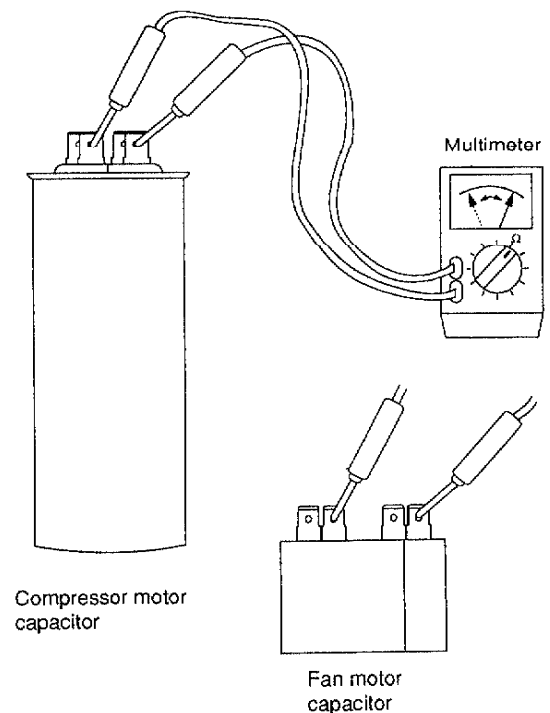


Fig. 7

7-4 Appearance of Electrical Parts

(1) Float Switch

FS-3502-202

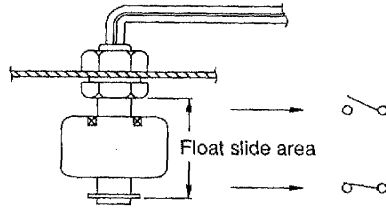


Fig. 8

(2) Electro-Magnetic Contactor

FMCA-1UL

FMCA-1SUL

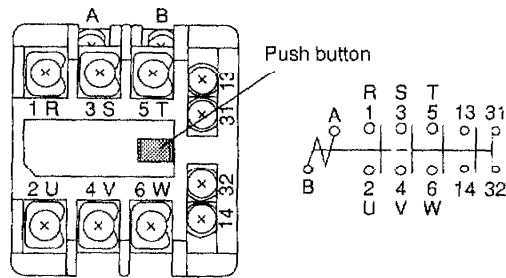


Fig. 9

(3) Auxiliary Relay

MY2F-T1-USTS

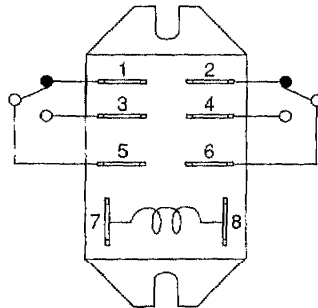


Fig. 10

(4) Thermostat

YTB-4U201F

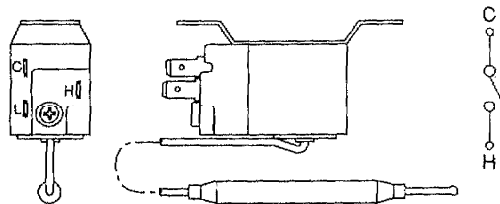


Fig. 11

(5) Electro-Magnetic Contactor

CLK-16E3-21

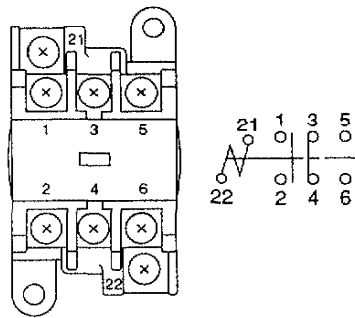


Fig. 12

(6) SSR (solid state relay)

G3L-205TL-TS1

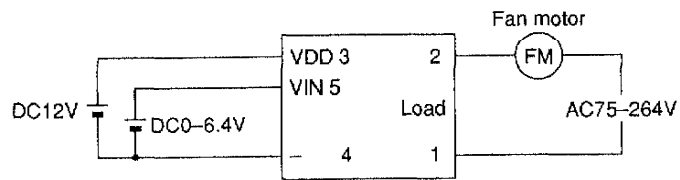
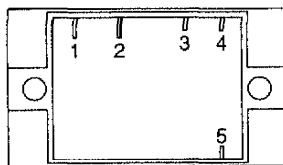


Fig. 13

(7) Thermostat

YTB-4U305F

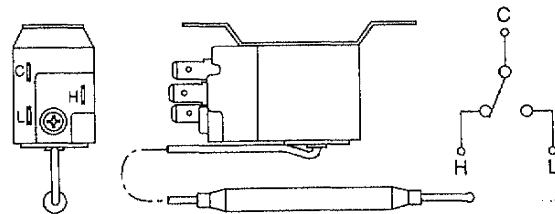


Fig. 14

(8) Thermistor (PTC)

TDK-101YV

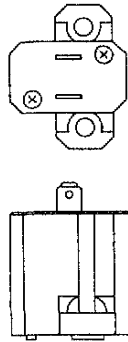


Fig. 15

(9) High Pressure Switch

FTB-2UC01

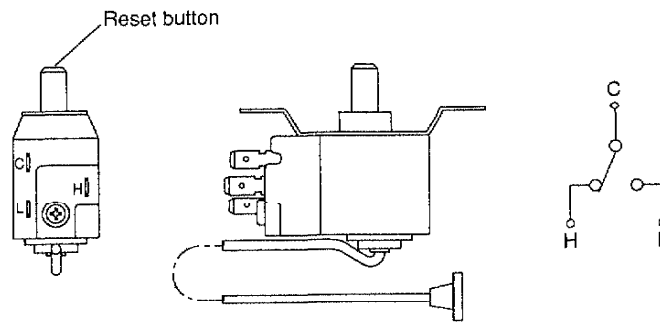


Fig. 16