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Marine type

Container Refrigeration Unit

Service Manual

Optional Functions

Model

LXE10D-A5R

DAIKIN INDUSTRIES, LTD.

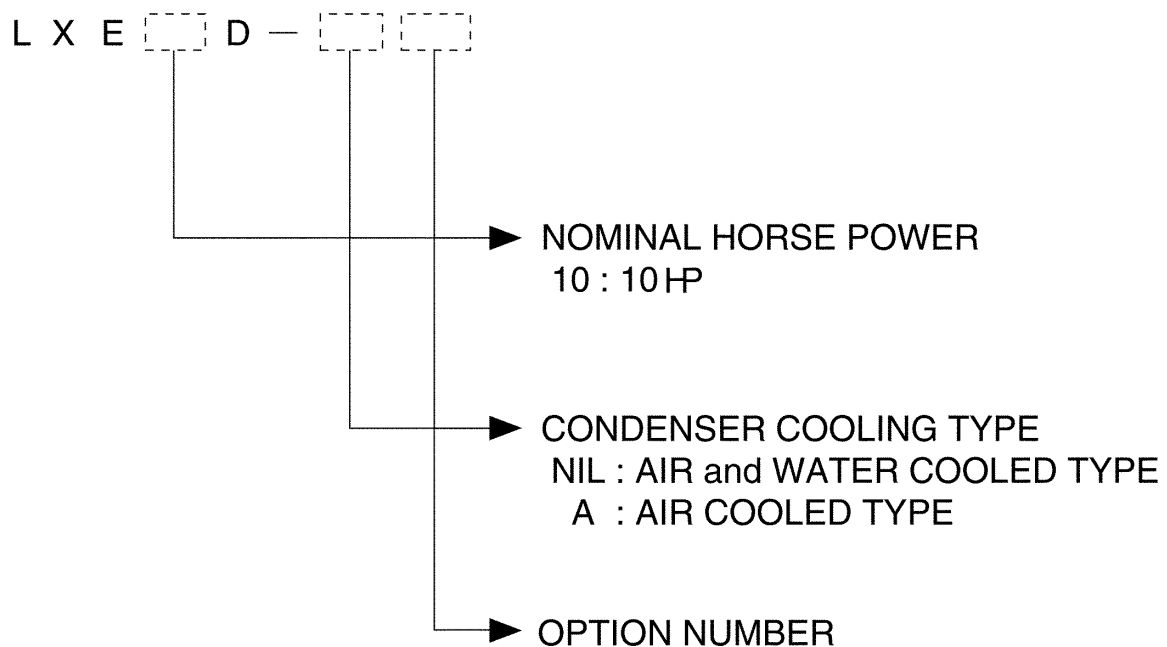
TR98-03

This manual describes only the items different from those of the standard machine.

For the items not described in this manual, refer to the following document.

- Service Guide, Services
- Service Manual (Operation)
- Parts List
- Operation Manual of Personal Computer Software
- Compressor Dismantling and Assembly Manual

Denomination of Model Name



Note) "R" GIVEN AFTER OPTION NUMBER STANDS FOR "REVISION"
AND IT IS GIVEN FOR THE UNIT WHICH IS SPECIALLY
MODIFIED.

Covered Models

This Service Guide describes only the items different from those of the standard machine regarding the features and operation of LXE10D-A5R.

Name of models	LXE10D-A(Standard)	LXE10D-A5R
Cooling system of condenser	Specifically used for air cooling system	
Reheat coil	Provided	Not provided
400V class power cable & plug	Provided	Not provided
Lever of voltage selector	Provided	Not provided (Contactor of voltage selector have already been set to 200V class.)

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SAFETY PRECAUTIONS

Always observe the following points before operating or inspecting a unit.

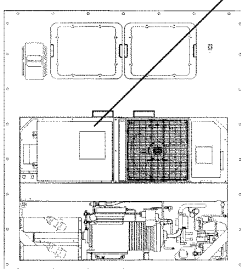
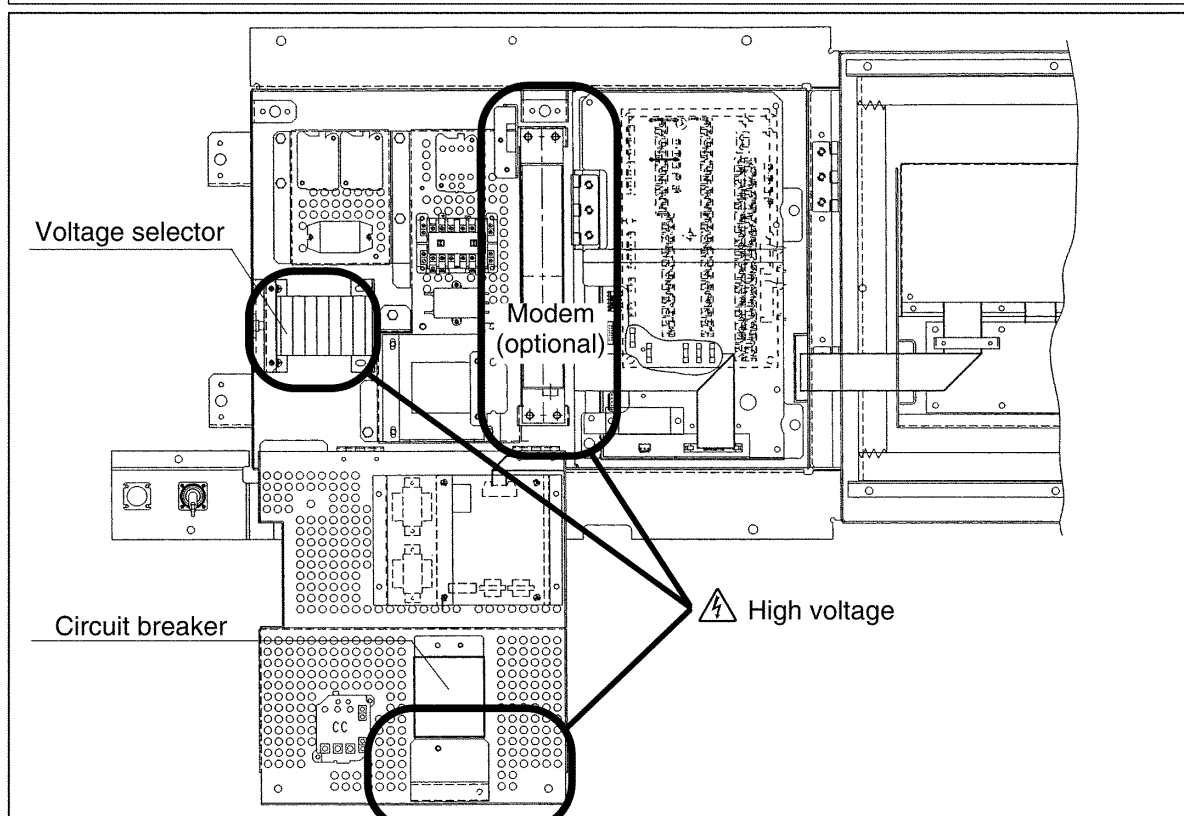
DANGER

Always turn off the main power supply of the facility before disconnecting the power plug.



Be sure to unplug the power cord before inspecting the inside of control box.

* Because the high voltage remains at the voltage selector, the circuit breaker and the optionally provided modem even though the circuit breaker in the control box is turned off.



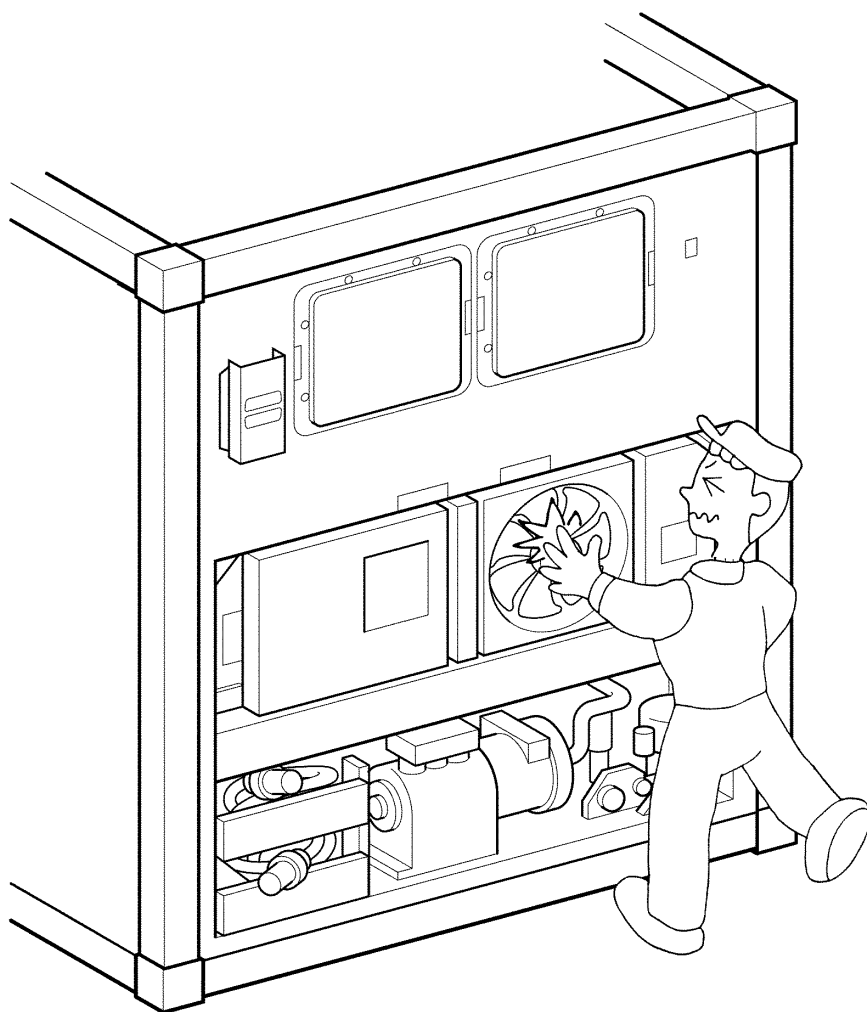
 **WARNING**

Do not touch the condenser fan during electricity being applied.

Before removing the condenser fan cover, turn off the circuit breaker and disconnect the power plug.



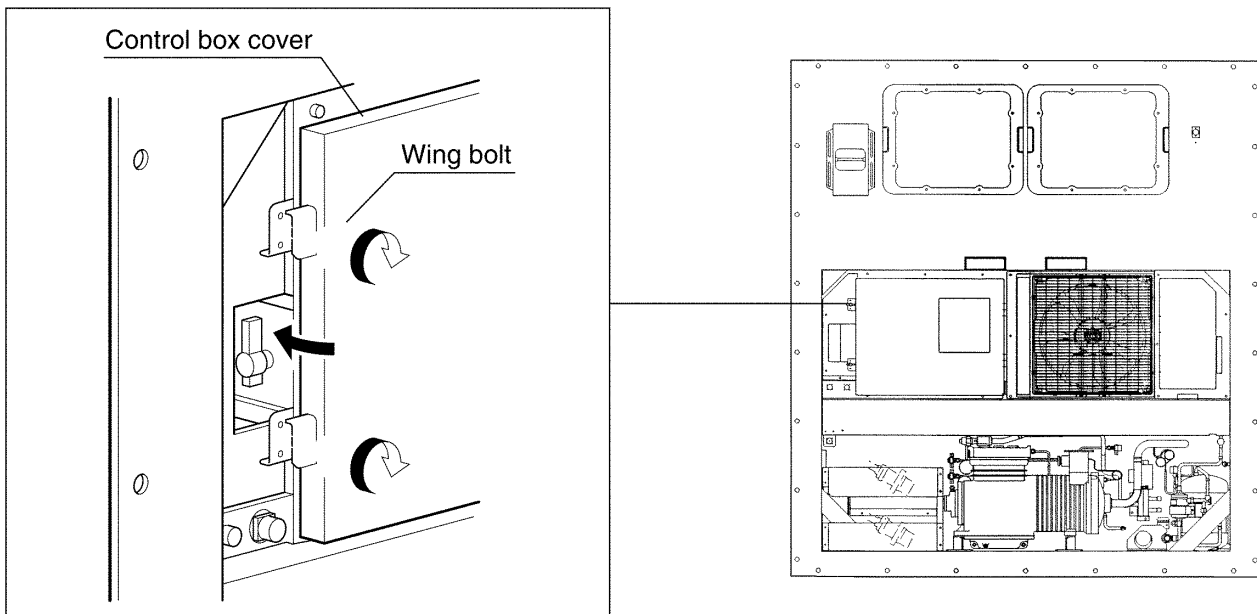
- At air-cooled operation : Condenser fan may start and stop automatically for the refrigerant high pressure control.
- At water-cooled operation : Condenser fan may start and stop automatically for cooling of the control box.



 **CAUTION**

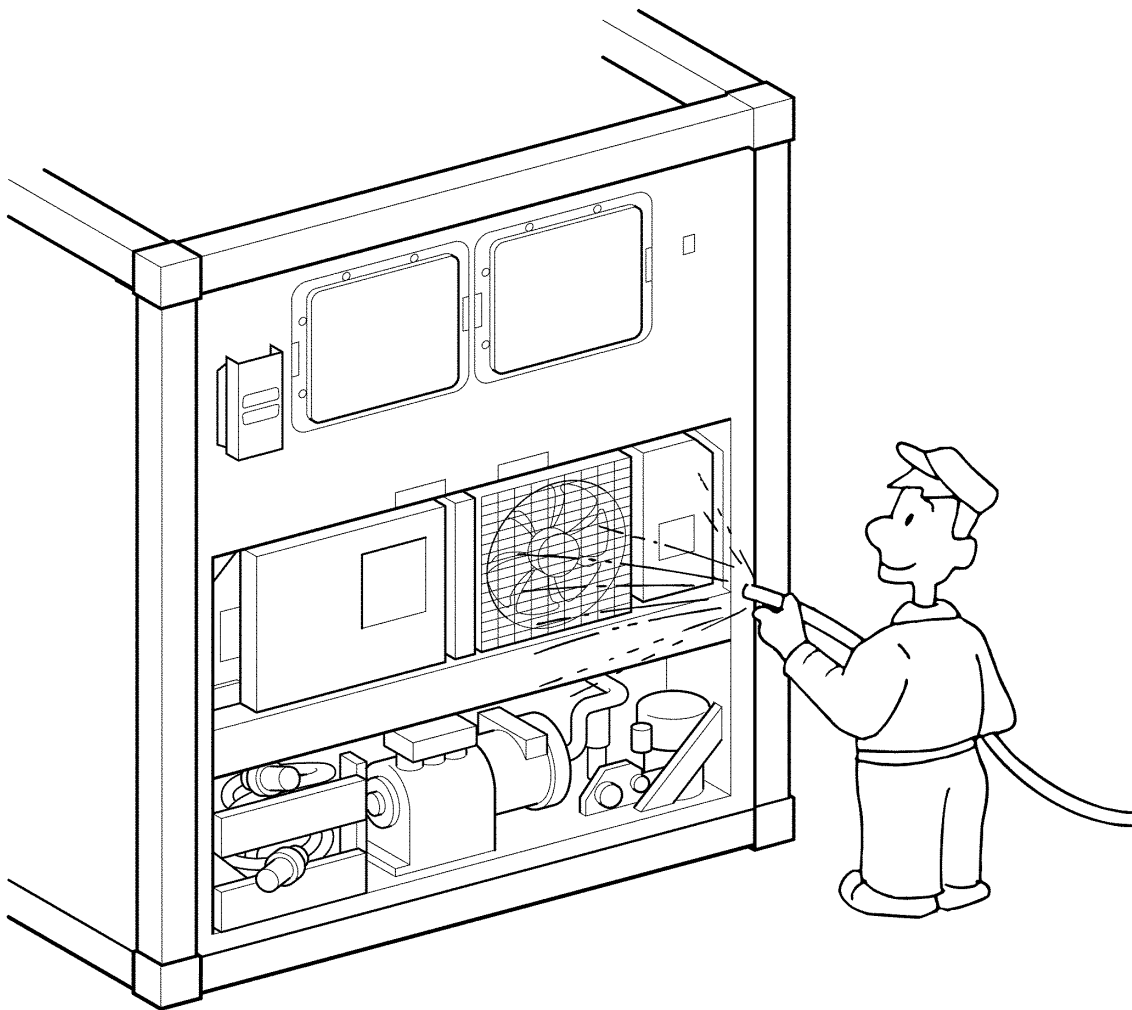
Before starting the unit, connect the power plug and run the generator.

Securely close the control box cover.
Otherwise, it will cause water ingress.



⚠ CAUTION

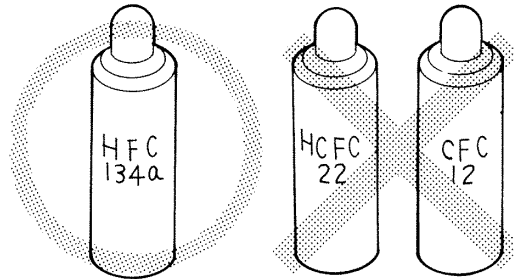
**Wash the refrigeration unit with fresh water before PTI.
Carefully flush the air-cooled condenser by fresh water since
much salt sticks to it.**



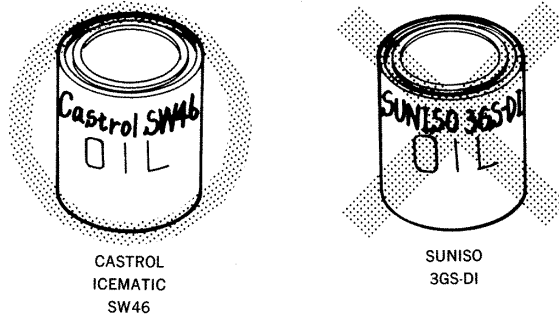
CAUTION

Refrigerant and refrigerating machine oil

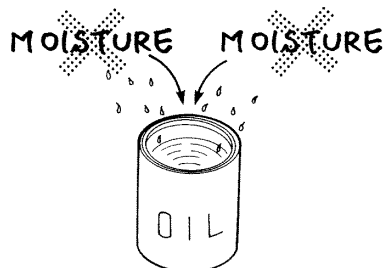
Charge only refrigerant HFC 134a to the unit.
Never attempt to use any other refrigerant (CFC12, HCFC22, etc) on the refrigeration unit.
If any other refrigerant not specified is charged, it may cause the troubles to the unit.



Use only Daikin specified oil (Castrol Icematic SW46) when replacing the refrigerating machine oil.
If any other refrigerating machine oil not specified is charged, it may cause the troubles to the unit.



Open the oil can, just before charging the oil, and use all the oil whose can is opened once.
Do not leave the opened can as it is for 5 hours or longer to avoid moisture ingress.
If any refrigerating machine oil which absorbs much moisture is used, it may cause the troubles to the unit.



Use only exclusive tools for HFC134a.(gauge manifold, charging cylinder, etc)
Do not use any tools for CFC12 or HCFC22.
Service ports with quick joints for exclusive use of HFC134a are provided in the refrigeration unit to avoid refrigerant and refrigerating machine oil of a different kind entering into the refrigeration circuit. (Refer to section 7.2)
The charging hose and service port are not interchangeable with those of previous model(s).

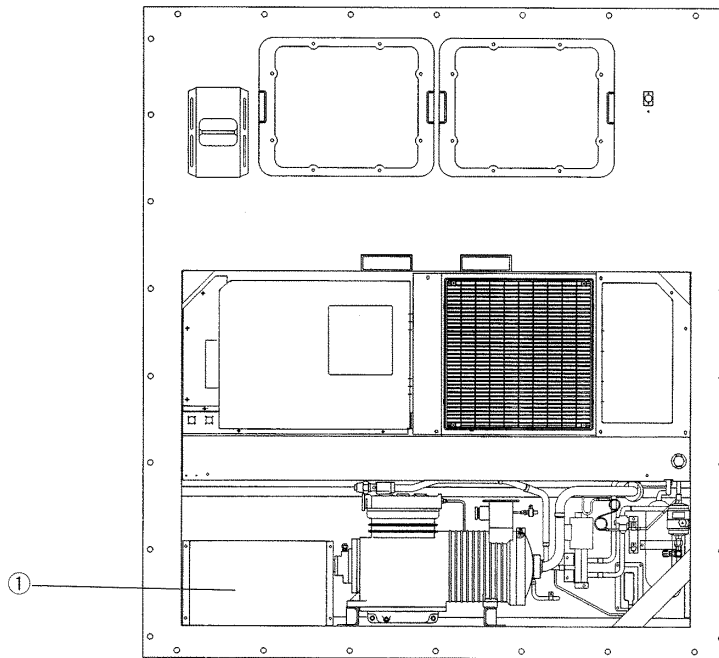
1. DATA OF REFRIGERATION UNIT

1.1 Main specification

Item		Model	LXE10D-A5R
Condenser cooling system		Air-cooled type	
Controller		DECOS III b	
Power supply		Single voltage AC 3-phase 200V class 50Hz : 200V 60Hz : 200V/220V/230V	
Compressor		Semi-hermetic type (Output: 5.5kW)	
Evaporator		Finned coil type	
Air-cooled condenser		Finned coil type	
Water-cooled condenser		Receiver	
Fan		Direct motor driven type propeller fan	
Fan motor		Three-phase squirrel-cage induction motor	
Defrosting	System	Hot-gas defrosting system	
	Initiation	Dual timer or manual switch	
	Termination	Evaporator outlet pipe temperature measured by a defrosting termination detecting thermostat.	
Refrigerant flow control		Electronic expansion valve	
Capacity control		Hot gas bypass control with modulating control valve	
Protective safe devices		Circuit breaker, PT/CT board (for over current protection), compressor thermal protector, fan-motor thermal protector, high-pressure switch, fusible safety plug, fuse (10A) × 5	
Refrigerant (charged amount)		R134a : 4.4kg/9.7 (lbs)	
Refrigeration oil (charged amount)		CASTROL ICEMATIC SW46: 3.6 (ℓ)	
Unit weight		Approx. 650 (kg)/1433 (lbs)	

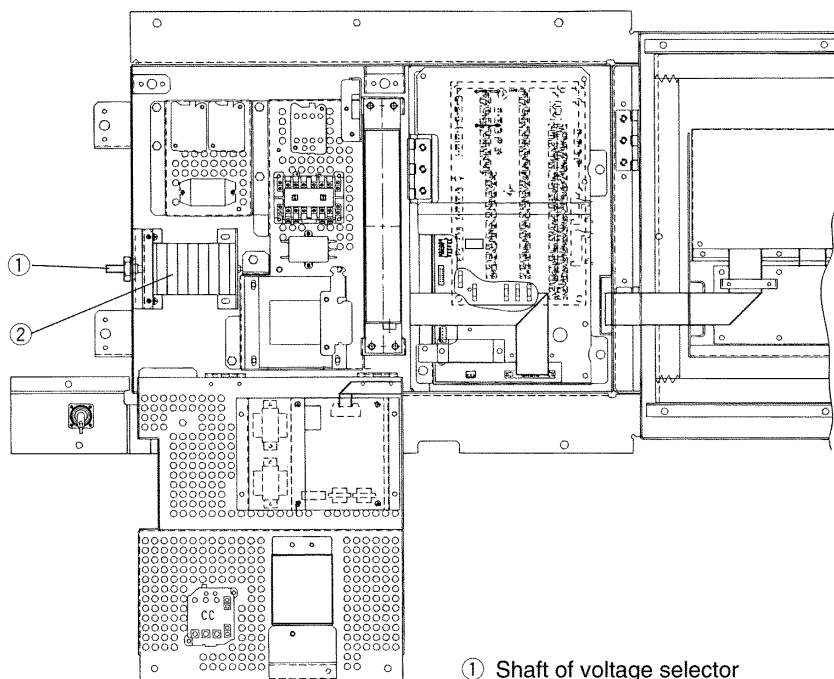
1.2 Name of components

● Outside



① Storage space for power cable (200V class)

● Inside of the control box

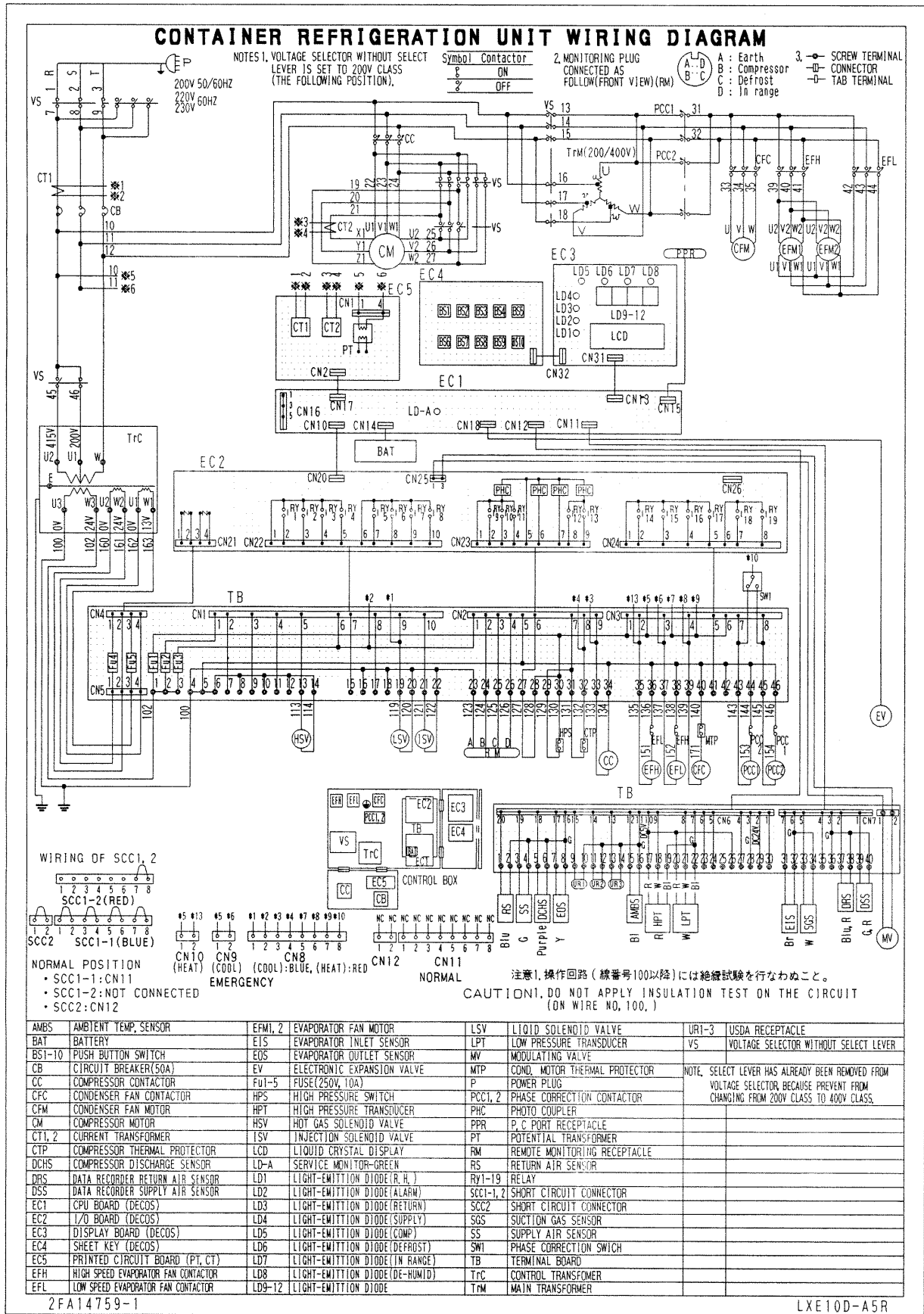


① Shaft of voltage selector
② Voltage selector without select lever

CAUTION

Do not turn the shaft of voltage selector with using tools like monkey wrench.

1.3 Schematic wiring diagram



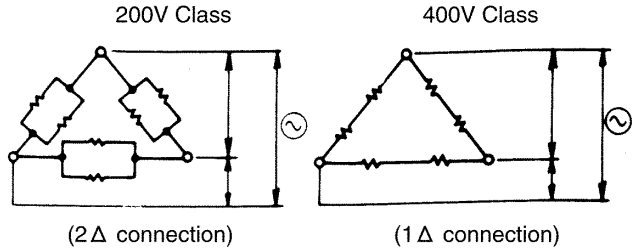
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2. VOLTAGE SELECTION SYSTEM (Change-over for 200V/400V class)

(1) Voltage selection system

Since the compressor motor is a dual voltage type and the fan motor is a transformer operated type, supply power is changed by the voltage selector lever with multi-contact cam switch which fits the wiring connections to the transformer for the control circuit and to each motor with its supply voltage. The internal wiring of the dual voltage compressor is as shown in the right.

(Machine for 200V/400V dual power supply)

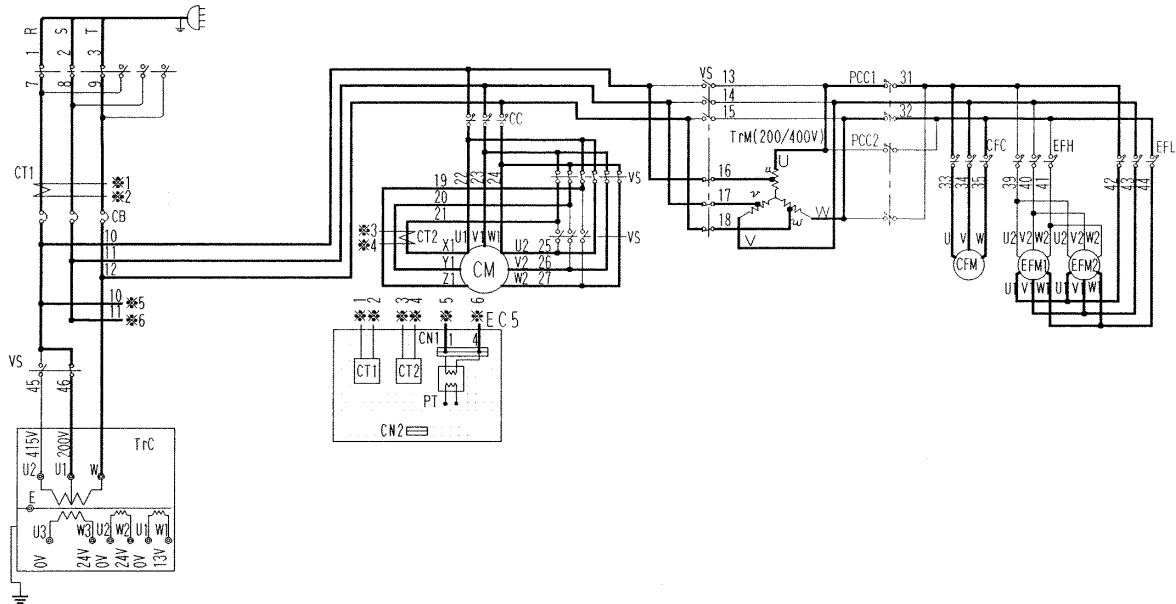


But LXE10D-A5R doesn't have the select lever of voltage selector. The contacts of voltage selector are locked at the position of 200V class.

(2) Circuit formation

● 200V class




The contacts (except SSW) shown by become closed in the sequence circuit.



CAUTION

LXE10D-A5R doesn't have the select of voltage selector. Select lever has already been removed from voltage selector, for the prevention of changing over from 200V class to 400V class.

3. G-SET OPERATION

- ① Press the G-SET key.
 - ② Select "11", "12", "13", "14" or "15" (KVA) indicated on the LED by the  key or the  key, and press the  key to determine the setting, then the energy saving operation starts so that the power consumption is saved to be the selected value (KVA) or lower.
- * If "OFF" is pressed during the energy saving operation, the energy saving operation is canceled.
 - * If the power supply is turned off in the G-SET mode, the mode is not canceled.
 - * During the G-SET operation, the leftmost. iLCD display indicates "G".

CAUTION

Set "11" (KVA) in G-SET mode "11" (KVA) is set in the factory sets.

Always operate the unit in the G-SET mode.



CAUTION

Observe the following items when installing the new controller.

4. INITIAL SETTING OF CONTROLLER

The controller needs to be initialized referring to the operation procedures of the following modes.

Refer to section 3.2 in servicemanual (Maintenance and Repair) (TR97-09).

7. Optional function setting mode
8. Basic function setting mode
9. Optional condition setting mode
10. Input data mode

※ Since the spare part is not initially set, it can not be operated as it is, (The alarm will be displayed.)



CAUTION

Always select "UAL" on INPUT POWER SETTING of "8. Basic function setting mode".

Power supply of LXE10D-A5R is 200V class single voltage, not dual voltage. But it is necessary to set "dUAL" at initial setting of controller.

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