



WATER SOURCE HEAT PUMP OWNER'S GUIDE & INSTRUCTION MANUAL



Please read this manual thoroughly before undertaking installation or operation and keep in a safe place for future reference by a serviceman.

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I. Preface

Thank you for choosing water to water heat pump water heater products. Before installation, it is strongly recommended to read this instruction firstly. This manual includes the information of installation, debugging, running and maintenance for products.

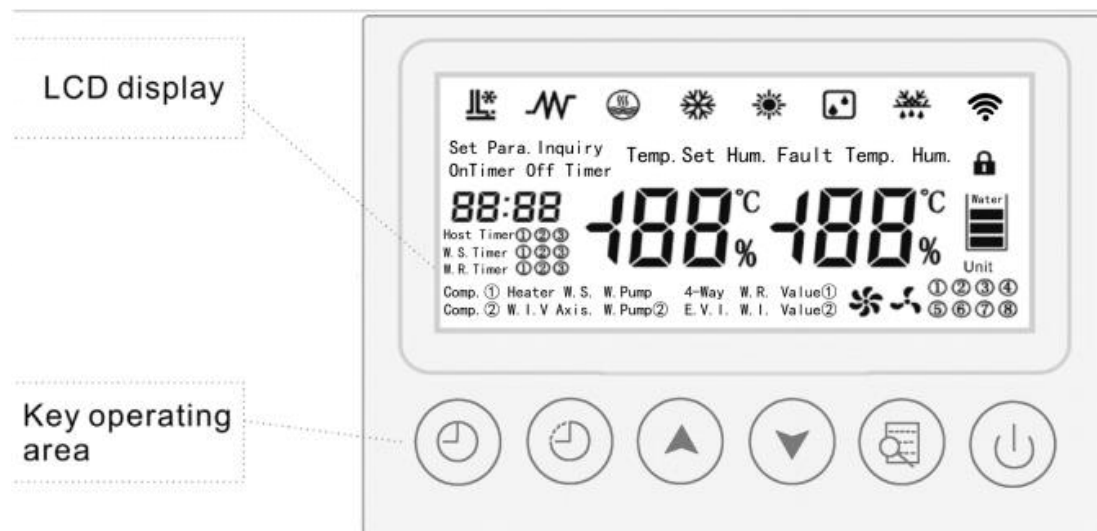
1. Before installation, check the installation environment, prepare a best solution.
2. Installation position should be vertical and support the weight of the system, ventilated and leave room for maintenance.
3. During installation, notice the below information: (refer to figure 2,3)
 - i. To make less resistance for the water circuit, use less unnecessary elbow, do not equip emergency turn near the water inlet and water exit. [Refer to P2 for circular water-flow]
 - ii. Keep pipeline clean, avoid dust to jam the pipe. After piping, check the leakage of the pipeline by hydraulic test. [Notes: pipeline hydraulic test should test separately, do not test together with water heater unit.]
 - iii. PPR water pipe and other accessories (such as water pump, water meter, valve, etc.) for water circuit should be heat-resisting. Choose circulation pump according to the water-flow and installation situation.
 - iv. Equip a water-flow switch to the external outlet pipe and connect to the water-flow protection on the main PCB.
 - v. Install a purifier on the water inlet pipe (40~60 mesh), clean the purifier regularly.
 - vi. To make cleaning more convenience, install draw off valve at the lowest point of the water pipe.
 - vii. Install loose joint to water inlet and outlet for convenience. When connecting, use pipe tongs to fix the pipe connect on the main unit, the connector on the main unit could not bear the rotating torque force directly.
 - viii. The water tank equip for the commercial model should be good insulated. To make the water circulation uniform, keep a certain distance between outlet and backwater vent. Supply the water to tank according to the practical use.
 - ix. In winter time, keep the machine power on. When the system is power off, do drain off the water to avoid making freeze damage to the heat exchanger and water pipe.
 - x. Clean the heat exchanger: install clean pipe 20-50CM from water inlet & outlet (see installation diagram 2). Use suitable abluent to flush it (about 3~5 hours) until it is clean (clean the heat exchange every three months)

II. Technical Specifications Chart

S/N	Model	Rated input power W	Compressor Rated current A	Power Supply V	Heating capacity W	Rated water outlet temp. °C	Unit Dimension mm	N.W. kg	Connection size DN
1	TRW-20	4200	8.7	380	19500	55	859*829*850	135	25/40
2	TRW-25	5200	11	380	24000	55	859*829*850	135	25/40
3	TRW-40	8700	17.6	380	40000	55	1503*723*1070	276	40
4	TRW-50	10400	22	380	48000	55	1503*723*1070	286	40
5	TRW-90	20000	38	380	90000	55	1200*1000*1700	572	40/50
6	TRWH-12	3800	6.85	380	14000	65	859*829*850	135	25/40
7	TRWH-15	4600	8	380	16500	65	859*829*850	135	25/40
8	TRWH-30	8900	17.6	380	33000	65	1503*723*1070	286	40
9	TRWH-60	17800	39.4	380	65500	65	1200*1000*1700	572	40/50

Note: For other or customized models, please consult Rheem or Rheem distributor for specification sheet.

III. Operation Instruction and Setting



Heat Pump Controller

1. After power ON the heat pump

LCD screen displays the controlling version for 2 seconds, full screen for 10 seconds, and then into normal working condition.

2.[ON/OFF]

When heat pump stays power ON, press this key to turn off the heat pump, showing water temperature, timing, and clock status. When power OFF, press this key to turn on the heat pump, showing operation mode, set temperature, water temperature, unit timing and clock status.

3.[Function]

At heating mode, press this key for 3 seconds to switch ON/OFF electrical heating.

4.[Up], [Down]

Press this key to adjust parameter checking & setting, clock setting, timing setting, and temperature setting.

In the parameter query, press this button to access different parameter items.

In parameter setting, press to adjust the parameters values.

In the clock setting, press to adjust the clock hour and minute data.

In timing function, to open Auto ON/OFF setting, press this key to adjust the timing period, timer on/off.

In the normal stage (non-clock, timer setting), press to set water temperature.

Press [UP], [DOWN] button for 5 seconds or more, you can set or cancel controller lock functions.

5.[Clock]

Key press to enter the clock setting mode, the hour flashes, press the [Up], [Down] key to adjust the hour, then press enter key to confirm the hour setting.

The minute setting, minutes are blinking, press [Up], [Down] key to adjust the minutes, then press this button to confirm the minutes and exit clock setting.

In the timer ON/OFF setting, press this key to cancel this time period timed ON/OFF.

In a parameter query, press this button to reset the external drive failure.

Hold this button for 3 seconds to enter the parameter query status.

6.[Timing]

Key press to enter the timing function.

In the non-clock setting mode, press this key to enter the selection timing periods, a total of three hours, according to [Up], [Down] key to select the time period, and then press this button to select regular boot this time period or time off settings, press [Up], [Down] key to select the timer on or off timer, press “Timing” button to select the mode, then set the timing of the hour flashes, press [Up], [Down] key to adjust the hours, then “Timing” button to confirm the timing of the hour setting, set the timing of the minute flashes, press [Up], [Down] can adjust the minutes, then press the “Time” to determine the timing setting and exit timing settings.

Cancel timing, when entering the timing periods selection, press the “Time” to cancel the timer on this point and time off the set period.

Parameters Query and Setting

Hold the [clock] key for 3 seconds or more to enter the parameter query status area displays the query parameter No. Clock and temperature display area displays the parameter content. Press [Up],[Down] can change the display parameter item, press the ON/OFF button or two minutes without operation button to exit the parameter query.

D01 for unrecoverable fault code.

Press the button one more time, d02 for recoverable fault code.

Press the button one more time, d03 retention

Press the button one more time, d04 for hot water outlet temperature.

Press the button one more time, d05 for water source outlet temperature.

Press the button one more time, d06 for water source inlet temperature.

Press the button one more time, d07 for hot water inlet temperature.

Press the button one more time, d08 for cool water inlet temperature 1 # .

Press the button one more time, d09 for cool water inlet temperature 2 # .

Press the button one more time, d10, this parameter is reserved

Press the button one more time, d11 for ambient temperature.

Press the button one more time, d12 for coil pipe 1 # temperature.

Press the button one more time, d13 for coil pipe 2 # temperature.

Press the button one more time, d14 for **gas return** 1 # temperature.

Press the button one more time, d15 for **gas return** 2 # temperature.

Press the button one more time, d16 for gas outlet 1 # temperature.

Press the button one more time, d17 for gas outlet 2 # temperature.

Press the button one more time, d18 for low water level sensitivity.

Press the button one more time, d19, this parameter is reserved.

Press the button one more time, d20 for high water level sensitivity.

Press the button one more time, d21 for protection switch status.

Press the button one more time, d22 for output 1 # status.

Press the button one more time, d23 for output 2 # status.

Press the button one more time, d24 for EEV 1 # open.

Press the button one more time, d25 for EEV 2 # open.

Press the button one more time, d26 for retention

Press the button one more time, d27 for retention

Press the button one more time, d28 for retention

Press the button one more time, d29 for heat pump model code.

Press the button one more time, d30 for control system version.

Press the button one more time, d31 for communication status 1 #.

Press the button one more time, d32, this parameter is reserved

Press the button one more time, d33 for limited running weeks.

Troubleshooting (Error Code Indication)

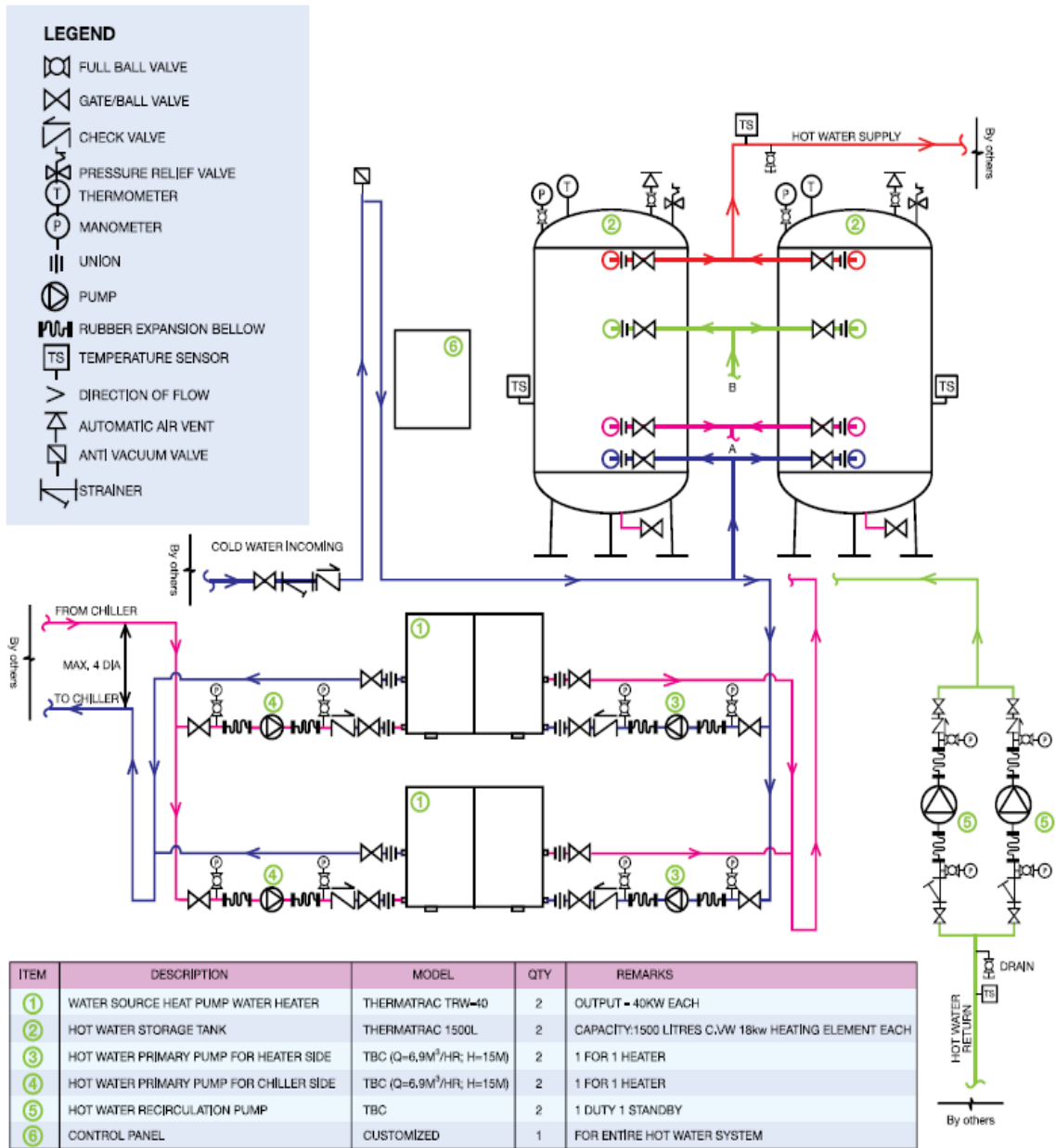
The following recommendations should be taken into consideration

failure code	Failure description	Failure causes	Failure recovery
E01	water tank temperature sensor failure	Hot water temperature sensor is disconnected or shorts out	check the connection of water tank temperature sensor/change the temperature sensor
E02	Ambient temperature sensor failure	Ambient temperature sensor is disconnected or shorts out	check the connection of ambient temperature sensor/change the ambient temperature sensor
E03	Water source inlet temperature sensor failure	Water source inlet temperature sensor is disconnected or shorts out	check the connection of water source inlet temperature sensor/change the water source inlet temperature sensor
E04	Water flow switch protection failure	water flow switch is disconnected/ water pipe is blocked/ water pump not start / insufficient water flow	Check the water flow switch/ clean the pipe line and the filter/check and replace the water pump with a bigger one
E05	High pressure 1 # switch failure	Disconnection due to high pressure protection/ insufficient water flow	clean the pipe line and the filter /check and replace the high pressure switch
E06	Low pressure # switch failure	Disconnection due to low pressure protection/ insufficient refrigerant.	re-charge the refrigerant / replace the low pressure switch
E07	water outlet temperature failure	water outlet temperature sensor is disconnected or shorts out	check the wire connection of the sensor or replace the sensor
E08	Lack water protection	Water line is disconnected or storage water tank lack of water	Check the connection of the water level, water inlet valve or change electronic board
E09	Inadequate protection of hot water temperature	Temperature between outlet water and inlet water is over 15°C	Check the sensor of outlet and inlet/outlet water volume
E10	communication failure	poor connection or disconnection of the operation panel	Check the connection situation of the operation panel /replace the operation panel or the main board.
E11	Compressor discharge 1 # temp protection	Sensor is disconnected or shouted out/ pressure is too high/insufficient refrigerant.	Check the discharge sensor,pressure and e-charge refrigerant
E12	High pressure 2 # switch failure	Disconnection due to high pressure protection/ insufficient water flow	clean the pipe line and the filter /check and replace the high pressure switch

E13	Low pressure 2 # switch failure	Disconnection due to low pressure protection/ insufficient refrigerant.	e-charge the refrigerant / replace the low pressure switch
E14	Compressor gas outlet 2 # temperature protection	Sensor is disconnected or shouted out/ pressure is too high/insufficient refrigerant.	Check the discharge sensor, pressure or re-charge refrigerant
E15	Gas outlet temperature sensor 1# failure	Temperature sensor is disconnected or shorted out	Check the connection line or change sensor
E16	Temp sensor failure (water source outlet)	Sensor is disconnected or shouted out	check the connection of the sensor and replace the sensor
E17	Gas outlet temp sensor 2#failure	Temp sensor is disconnected or shorted out	Check the connection line or replace the sensor
E19	Cold water inlet 1#temp failure	It is disconnected or short out	Check the connection line or change sensor
E21	water flow switch protection of water source	Water flow switch disconnected / pipe line blocked / water pump failure / insufficient water flow	Check the water volume or water flow switch connection
E22	water source inlet temp is too low to protection	Inlet water of water source below 7°C	Check the sensor of outlet and inlet or outlet water volume
E23	Cooling water temp too low to protection	Cooling water outlet temp below 5°C	Check the water flow switch/ clean the pipe line and the filter/ check and replace the water pump with a bigger one
E24	Water source outlet temp too high to protection	Water source of outlet water temp over 65°C	Check water flow switch/clean pipe line and the filter/check and replace the water pump with a bigger one
E25	hot water outlet temp too high to protection	Water outlet temp over 75°C	Check the sensor of outlet and inlet/outlet water volume
E26	Water source outlet temp too low to protect	Water outlet temperature of water source over 2°C	Check the sensor of outlet and inlet/outlet water volume
E27	Cold water inlet 2#temp sensor failure	sensor is disconnected or shorted out	Check the connection line or change sensor
E28	Gas return temp sensor 1# failure	sensor is disconnected or shorted out	Check the connection line or change sensor

E29	Gas return temp sensor 2# failure	sensor is disconnected or shorted out	Check the connection line or change sensor
E30	Coil pipe 1#temp sensor failure	sensor is disconnected or shorted out	Check the connection line or change sensor
E31	Coil pipe 2#temp sensor failure	sensor is disconnected or shorted out	Check the connection line or change sensor
E35	Inadequate protection of water temp difference	Temp between outlet water and inlet water over 15°C	Check the sensor of outlet and inlet/outlet water volume
E36	Three-phase reverse protection	Power source lack of phase protection or phase board error	Replace power cable or phase board
E37	Limited running protection	Procedure setting of limited running period	Reset parameter
E39	EEPROM failure	The chip program error	Replace electronic board

IV. Installation Instruction

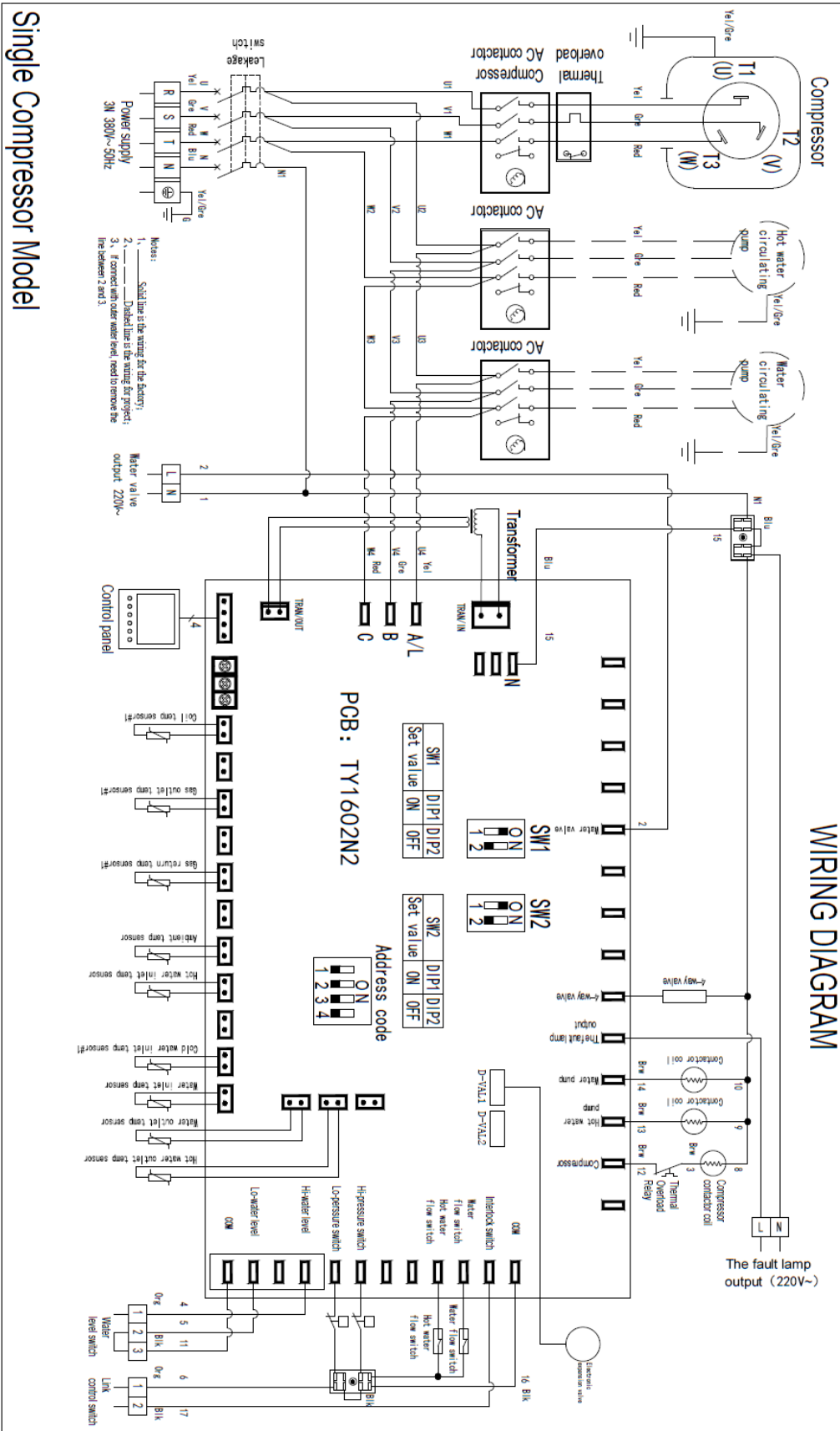


Typical Water Source Heat Pump System Schematic Diagram

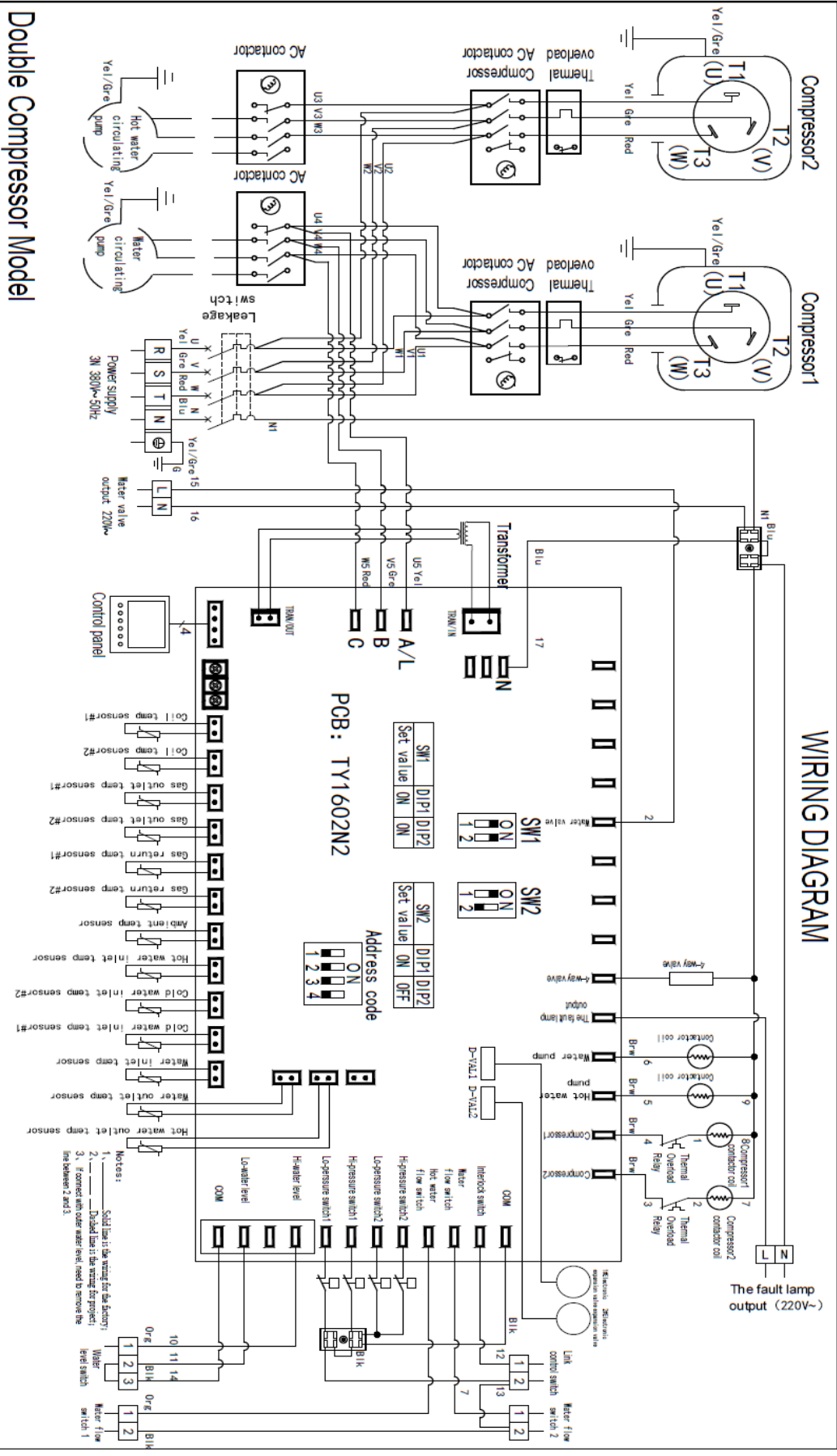
Installation notes:

- 1, The factory supplies only the main units for commercial heat pump water heaters, users prepare other accessories.
- 2, Before installation and use, please read these instructions carefully.
- 3, The unit needs to be installed on enough bearing capacity and flat surface areas, there is enough space repair.
- 4, To avoid electronic components close to the water and lead to moisture, otherwise a short circuit may cause fire or damage to the unit.
- 5, Cable connection must be correct, otherwise it may damage the unit of electronic components, the unit must be installed on the line of reliable leakage protection switch, otherwise it may occur in the electric shock accident or the safety accident caused by leakage.
- 6, The emergence of lightning, high electromagnetic radiation may have an impact on the unit, such as abnormal, please disconnect the power, waiting for the impact of the removal of the re start of the unit, otherwise it may damage the unit or shorten the service life of the unit.
- 7, Please professional personnel to install, if the operation mistake will lead to fire, leakage, safety accident occurred, or DSA machine yuan's normal work.
- 8, The water piping system design requirements of resistance as small as possible, to reduce the elbow unnecessary, especially a sharp turn in the inlet and outlet cannot be close to the unit, to prevent water flow reduction.
- 9, A pipeline should be kept clean, no rust dirt, to prevent clogging the pipeline, pipe after the examination to ensure that the pipeline pressure leak detection system without penetration now [Note: piping should be separate pipeline pressure test, do not set together with the dual source pressure test].
- 10, Don't take any other electrical equipment grounded to the water machine water pipe. This may be caused by electrolytic corrosion of water pipelines.

V. Wiring Diagram



WIRING DIAGRAM



Double Compressor Model