OPERATION MANUAL

FOR

Geothermal ground source heat pump

CONTENT

1. Cable controller display

```
         (1)─────                          ─────(5)
                    ┌─────────────────────────────┐
                    │  ⏻        COOL        NET   │
                    ├──────┬──────────┬────────────┤
         (2)─────   │WEEK 6│  25 ℃   │ 29 ℃  🗋 ⚙ │  ─────(6)
                    │20: 00│ SET TEMP │    RT  〰 ⚒ │
         (3)─────   │      │          │            │
         (4)─────   └──────┴──────────┴────────────┘
                                       ┌──────────┐
                                       │ ▯ ON/OFF │  ─────(7)
                                       └──────────┘
        (10)─────   ( SET )              ( MODE )     ─────(8)
                       ( ⋀ )  ( ⋁ )
        (11)─────   (TIMER)              (RESET)      ─────(9)
        (12)─────
        (13)─────
```
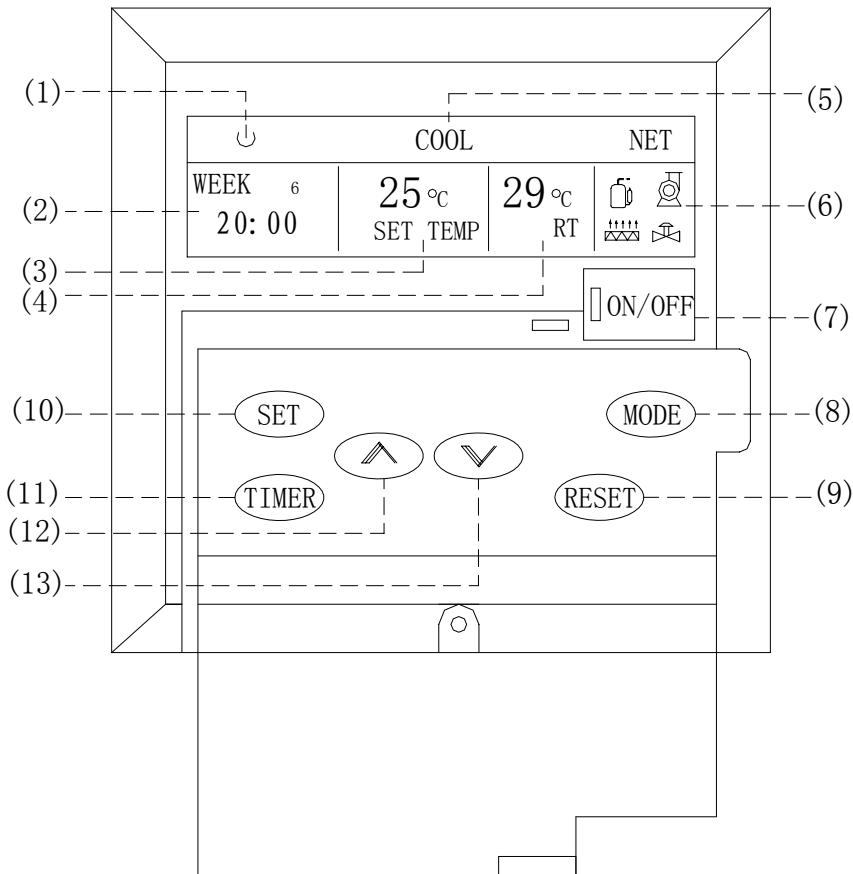
（1）──Unit turn on lable

（2）──Week and time display

（3）──Display the indoor side water return's set temp. on HEAT mode. Or display hot water set temp. on HOT WATER mode.

（4）──Display the indoor side water return temp. on HEAT mode. Or display hot water temp. on HOT WATER mode.

（5）──Mode display, include COOL, HEAT, HOT WATER three modes.

（6）──Parts working lable display include compressor,pump,auxiliary electric heater, reversal valve.

（7）──ON/OFF button. After the unit is power connected and the mode is selected, press ON/OFF, the unit will be turned on. Press this key again when A/C is running, it will be turned off and get into standby state.

（8）——Mode set button. This key is only for setting HEAT or COOL mode, heating only unit just display HEAT mode. Hot water mode is set internally.

（9）——RESET button.After trouble is solved,press this key to restart unit.

（10）——SET or CHECK button. Press once to check each temp. sensors' data as below:

Data code	Data discription	remark
DS01	Indoor side heating water teturn temp.	
DS02	Indoor side heating outlet temp.	
DS03	Outdoor ambient temp.	
DS04	Hot water temp.	
DS05	Outdoor side heating outlet temp.	shielded

（11）——TIMER button. Press this key for 10 seconds to set hour,minute,week.

（12）、（13）—— Up and down key to adjust data,temp. time, etc

2. Operation guide

1、 HEAT mode

1.1.   When the unit is power connected, press ON/OFF key, then select HEAT mode, the unit is working.

1.2.   Press ▲or ▼ to set indoor side water return temp. The setting range is from 15℃--60℃. It is recommended to set the indoor side water return temp. ≤55℃.

2、 Timer running

This data is set at management (M) stage. Hot water and A/C mode timing running could be set separately from Monday to Friday or from Saturday to Sunday.

3、 Hot water mode

This data is set at management (M) stage.Hot water mode timing running could be set separately from Monday to Friday or from Saturday to Sunday.

4.   TIMER

Press TIMER for 10 seconds until hour blinks, press ▲ or ▼ to adjust the hour data. Press TIMER again, set the minute data. Then press TIMER for another time, you could set the week data.

3. Wiring diagram

4、 The following electric diagrams are for reference only. Each unit's has its correct electric diagram which is put on the electric box.

5、 1.230V/1/ Unit with internal hot water pump and 3 way revert valve
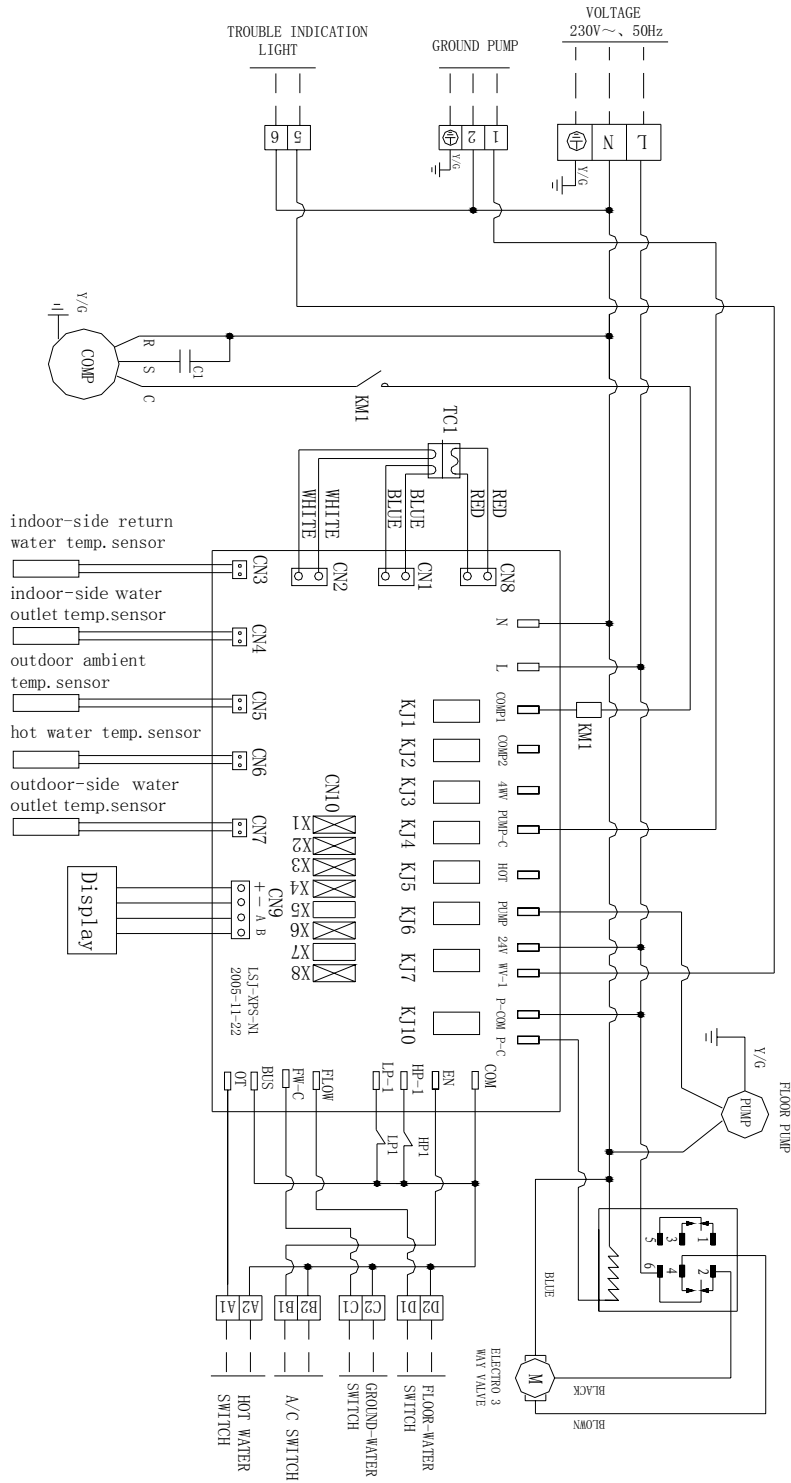
2.380V/3/ unit with internal hot water pump and 3 way revert valve
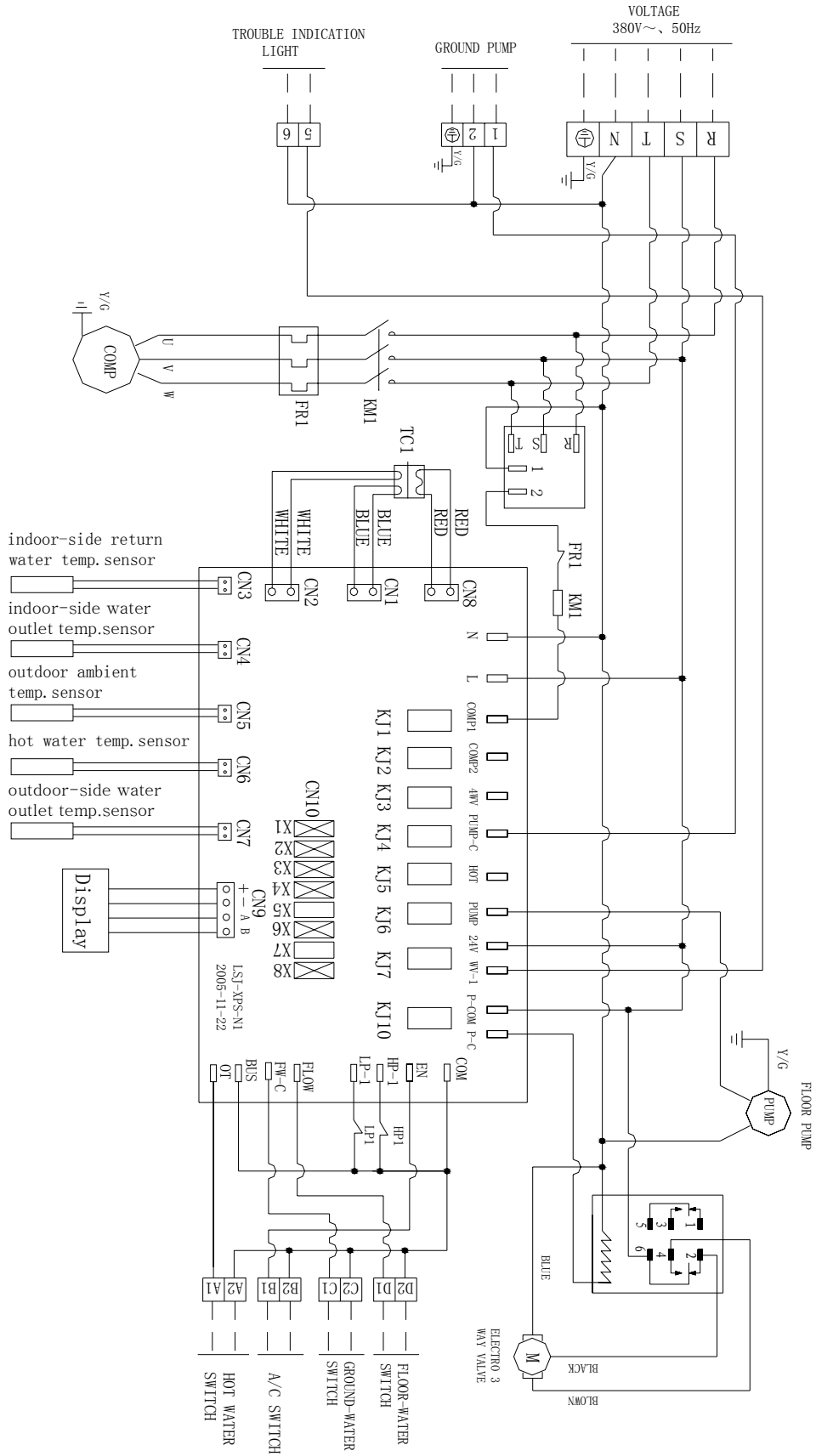
4. Trouble shooting

The system trouble code and protection methods.

The Controller will diagnose troubles automatically and deal with them accordingly.

Trouble description	Trouble code	Trouble reason	Protection measurement	Restore condition
Communication trouble	E-00	Communication adnormal	Cable controller alarm	Communication circuit turns to nornal
Indoor side water flow switch break	E-01	Indoor side water flow switch breaks for 5 seconds	System closes	press RESET key
Outdoor side water flow switch breaks	E-02	Outdoor side water flow switch breaks for 5 seconds	System closes	press RESET key
Phase serial/short of phase	E-03	Phase serial/ short of phase check board switch breaks	System closes	press RESET key
Setting trouble	E-04	Prohibit heating and cooling	System can not be turned on	Turn off power to re set
1# compressor pressure is too high	E-05	Compressor high pressure switch breaks for 5 seconds	Compressor stops	Press RESET key after high pressure switch turns to normal
1# compressor pressure is too low	E-06	Low pressure switch breaks for 5 seconds after compressor runs for 5 minutes	Compressor stops	Press RESET key after low pressure switch turns to normal
Outdoor side outlet temp. sonsor damage	E-07	Sensor shortcircuit or breaks	Allow cooling,prohibit heating/hot water(if SP08 works)	Press RESET key after replacing sensor

Hot water temp. sensor damages	E-08	Sensor shortcircuit or breaks	Cancel hot water function	Press RESET key after replacing sensor
$T_{out\ ambient}$ sensor damages	E-09	Sensor shortcircuit or breaks	Cancel related function	Press RESET key after replacing sensor
Indoor side water outlet temp.sensor damages	E-10	sensor shortcircuit or breaks	Allow heating/hot water,prohibit cooling	Press RESET key after replacing sensor
Indoor side returning water temp.sensor damages	E-11	sensor shortcircuit or breaks	System close	Press RESET key after replacing sensor
Indoor side water flow anti-freezing in winter	E-12	When unit is off, $T_{indoor\ side\ return\ water}$≤【SP09】	Unit works on heating	Unit is on or T indoor side returning water≥【SP09】+6℃
Outdoor side anti freezing when heating	E-13	Outdoorside water outlet temp. ≤【SP08】	Stop compressor,outdoor side pump and indoor side pump continues to work	water outlet temp. >【SP08】+10℃ and press RESET key
Indoor side anti-freezing when cooling	E-14	water outlet temp.when cooling ≤【SP07】	Stop compressor and outdoor side pump	water outlet temp. >【SP07】+10℃ and press RESET key