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Product Introduction

Solar energy collecting control system is an intelligent control system which aims to supply hot water for solar project and villa solar project. One main feature is adopting water level sensor with SUS304-2B stainless steel as rust may affect the inspection reliability and lifetime. Moreover, it also features as simple structure, easy to use, sound stability, getting rid of tank temperature and water quality. At present water level inspection is the most ideal system, which varies from more than 10 CM to several meters with good cost performance. Temperature sensor adopt high quality imported material, which can inspect the temperature reaching to 200 degrees centigrade(normally to 120 degrees centigrade) according to customers requirement. This kind of sensor completely meet to solar project working condition. Main electric parts are adopt unit imported from US, double electrical sources , and optoelectronic isolator design, which keep work stable and reliable without any disturbance from strong power. The system adopt the way of three phase (alternative current 380v) compatible with single phase(alternative current 220v) , with large power design to meet with different working conditions, higher equipments attenatiivity and the efficiency of the whole system. Electrical heater adopt alternative current 380v or alternative current 220V up to customers. The maximum controllable power can be set at any time. Pressure pump and circulation pump have the same max controllable power as 1500W, which can be increased according to request. Many indicating lights are applied in this system. When the system gets in trouble, manual operate can also work and the working condition is clear to us. Taking fully consideration of safety, the system is equipped with high quality creepage protection system . Meanwhile, to meet different demand, our company develop and exploit a large-scale software system to maximumly facilitate every customers and to randomly choose installation and debug at the place. Moreover, the reference data can be reset according to current hardware condition and the need of customer, and can be upgraded with lowest cost to cater for customer.

Function instruction

I . Twelve numbers display collector temperature, tank temperature, water level, pipe temperature & time respectively

First line: solar collector, water tank temperature;

Second line: pipe temperature, water level in tank;

Third line: Current time;

Lightening indication from left to right: pressure pump and heat exchanger piping circulating, and constant outlet water respectively

II 、 Automatic input water (water level, fixed- time control)

- When water level in tank is equal to inlet level, control will load water automatically until the water level to the fixed line. The lowest and highest level are flexible up to you. At the same time, it is possible to set load water at fixed three times per day, which vary from 00:00 to 24:00 arbitrarily.
- With self checking system. Controller will cut off the magnetic valve when no water in tank or low water pressure
- The system equips with over-exposure protection procedure, which keep the water heater from broken due to the sudden inflowing water under high temperature exposure
- Power off memory: It also equips with memory of off power and cutting off power after inlet. It will input water to fixed level when power on.

III 、 Automatically electrical heating (Intelligent control heat heating at fixed time)

Customers can set the maximum of minimal level of inlet & outlet water, When temperature is lower than the minimal level, the electrical heater will start automatically till the temperature reaching to fixed temperature. We can also set input water at fixed three time: for incidence, it will inspect temperature in water tank at 5:00 PM everyday, if water tank is lower than fixed temperature, electrical heater will start work till the set level.

It equips with electrical heating protection system (avoiding dry out). When no water in the tank or water level lower than (2H), it will lock the electrical heating system. When electrical heater is needed, If lower protection line, better to input water till the line and then turn on the electrical heater.

IV 、 Auto control heat exchanging pump

Function introduction

Heat exchange circulation pump works for controlling gravity circulation, gravity circulation (setup items: lowest temperature range, highest temperature) when collector temperature is higher than that of water tank (preset highest temperature) Circulation pump begin to work. When with similar temperature (to preset lowest temperature range), it stops.

The system is installed with exposure resistance. When the temperature ranges between collector and water tank is over 80°C , heat exchange will stop which avoid the broken of vacuum tubes due to the sudden water entering under long-time exposure.

The preset procedure of pump start will make sure it will not restart in 3 minutes after the circulation.

2、 Automatic controlling pressure pump

If the water pressure is too low to load water, pressure pump should be installed, which will be controlled automatically by the system.

3、 Automatic controled pipe circulating pump

Pipe circulation has three working modes and which one applied is up to customers. One is timed circulation (setup items: internal time of start and continuous work time) run on circulation pump in every certain minutes and then off.

Another one is preset temperature circulation (setup items: start-up temperature when pipe circulating, continuous working time)

When temperature in the pipe lower than preset, setup circulation pump. After a certain time, stop the circulation pump, meanwhile, entering protection system of setup time, which will sure without restarting within 3 minutes.

The third is temperature range circulation (setup items: lowest temperature of pipe circulation, highest temperature of pipe circulation). When the temperature range between water tank and pipe circulation exceeds the highest point, start with circulation till the temperature range reaching the lowest point.

Control system provide three methods choice 1、 2、 3 and the counterpart 1、 2、 3.

3、 See the third screen explanation of expansion function

In case, without temperature sensor, the automatic method is No. 1 control circulation pump; the recovery parameter is preset; and the internal time for setup is 4 hours and 8 minutes for continuous working!

Function Introduction

VII、 Intelligent control and outlet

When tank temperature \geq that of outlet start, constant outlet pump will work automatically till the temperature \leq that of outlet start (outlet setup temperature - Outlet end temperature range), then outlet pump will stop automatically.

When the temperature is between the two figures, manual start outlet pump is available till that of end temperature.

VIII 、 Automatic/ manual shift

Customers, under certain condition, may manually start the loading water, heating, pipe circulation, and the setup or stop of constant outlet water according to the actual need.

IX、 Replcement

Should any arbnormal fuctions occur after the adjustment of parameter, long press of Pipe circulation/ resave for 3 minutes till 8 digitals lighting, which means recovery to the preset system and the sytem will work as the preset.

Setup and operation description

This control system has been installed all the parameters, which works automatically after the accomplishment of installation with power. As to unfamiliar customers, better to set the parameter after reading the manual carefully. Click the button of function to preset parameter.

Before going into setup system, the 8 digitals in the show: ; and the down shows: ; which will indicate the system is reseting now. When entering parameter setup, click loading water or worming to adjust..

After finish, press Save to save parameter.

Setup and operation explanation

、 Basic function set (click preset for one second entering to parameter setup

18 : 00 shows the time is 6:00 PM at present.

、 Water level parameter setup (click set + Input for one second to entering parameter set)

First screen: upper line(3H 5H, the lowest point of water level and the highest);
down line (08 : 00 displaying first time of loading water;

Second screen: upper line (24 00 indicating the second time of loading water and
down line (24: 00 for the third time);

The lowest water level ranges 0H~4H, and preset is 3H;

The highest water level ranges 1H~5H, and preset is 5H.

[、 Temperature parameter setup (click set + heating for one second to enter parameter set)

First Screen: upper line ——35 55 indicating the lowest temperature and highest temperature respectively; down line ——17 00 the time of first timed heating;

Second Screen: upper line 24 00——the time of second timed heating; and down line
24 00——the time of third timed heating;

The third Screen: upper line (06 00 for the start time of warming); down line (23 59 for the
end time of first heating);

Fourth Screen: upper line——60 for the setup temperature of outlet; down line ——10
for the end temperature range of outlet,

It can be calculated: the end temperature of outlet=the start temperature of outlet- the end
temperature of outlet;

Lowest water temperature ranges 0~99℃ , and the preset one is 35℃ ;

Highest water temperature ranges 1~99℃ , and the preset is 55℃ ;

Hours for first time of heating ranges 00~24, the preset is 17; minutes choices ranges
00~59, and the preset is 00; (5 PM) Hours of Second, third heating time ranges 00~24,
and the preset is 24; minutes range 00~59, the preset is 00 (hiding two different timed),
hours for start time of first heating time ranges 00~24, and the preset is 06; minute
ranges 00~59, and the preset is 00; (6AM) ,

Hours for end time of first heating rangs 00~24, preset time is 00; minutes ranges 00~59
the preset is 00; (12 at middle night).

Setup and operation instruction

IV、Setup of heat exchanger parameter (press set+heat exchanger key for one second, entering to parameter setup)

05 15 indicate the lowest limit of temperature range is 5°C (close range) and the highest is 15 °C (start range)

The lowest temperature range (close heat exchanger) is from 0~30°C, and the set temperature is 5°C

V、Pipe circulation parameter setup (press set+pipe circulation for one second to enter to setup system)

First screen: upper line: --- 1 indicates pipe circulating control mode; down line---4-08 shows the internal time is 4 hours, and continuous working for 8 minutes: (pipe circulating Mode 1)

Or 07 08 shows the start temperature is 7°C, and working time for 8 minutes. (pipe circulating mode 2)

Or 02 05 shows the lowest temperature is 2°C, and the highest temperature is 5 °C (pipe circulating mode 3)

Second screen: Upper line 06 00 is the beginning of first pipe circulation period. Lower line 00 00 is the time of end time for the first pipe circulation.

The scale for the pipe circulation is 1-3, the preset parameter is 1;

The time of internal time for start is

0, 10, 20, 30, 40, 50 minutes (display --, -1, -2, -3, -4, -5),

1, 2, 3, 4, 6, 8 hours (display 1-, 2-, 3-, 4-, 6-, 8-),

preset parameter 4- (start in every 4 hours), continuous working time ranges from 1 to 60 minutes, preset is 8 minutes;

Starting temperature for the pipe circulation ranges from 0~99, with preset parameter 7 and continuous working time from 1~60 minutes, and 8 for preset parameter;

The lowest temperature is 0~30°C, with preset parameter 2°C,

And highest is from 1°C to 30°C, with preset 5°C.

Sketch for installation / Control system diagram

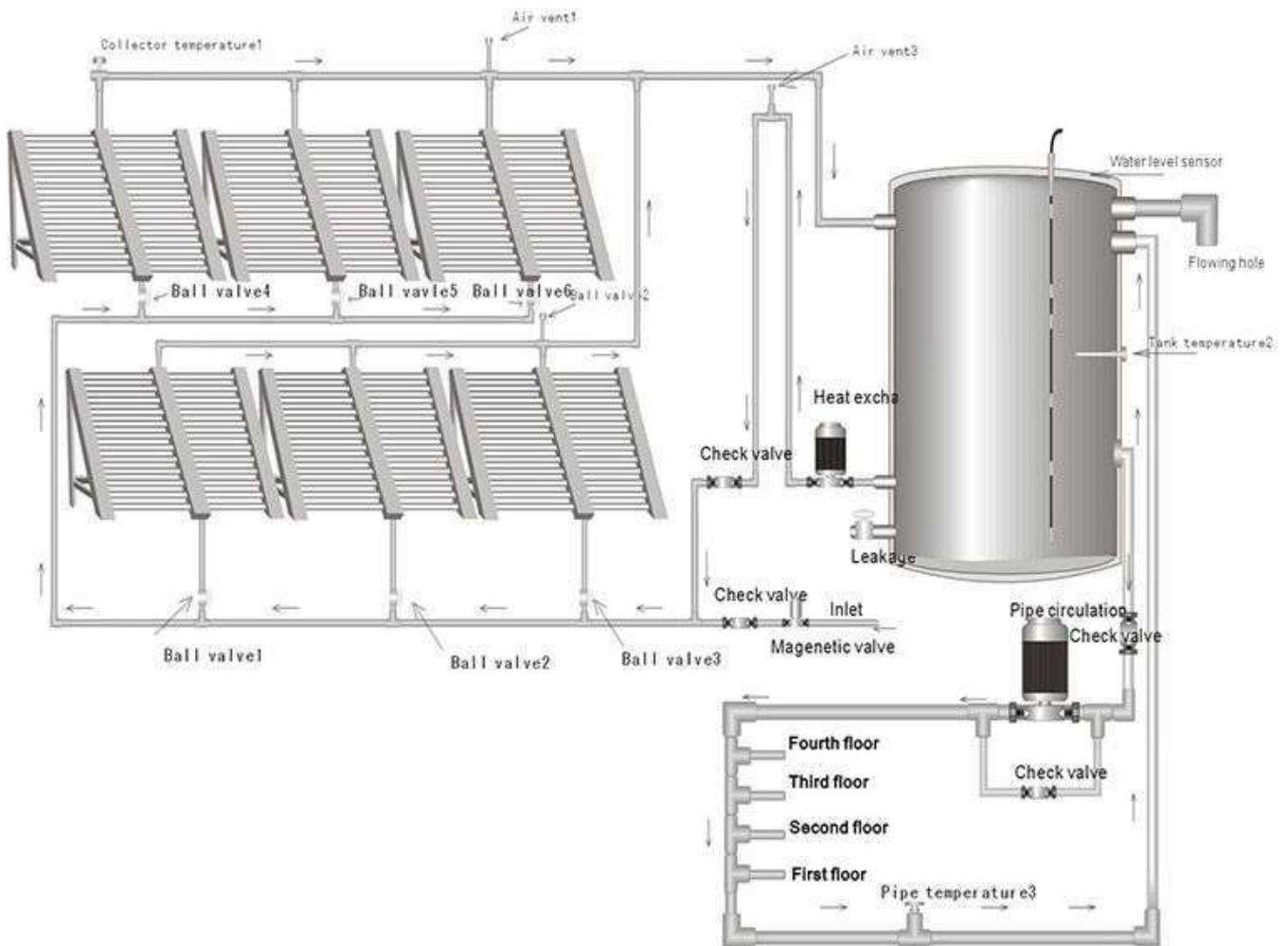
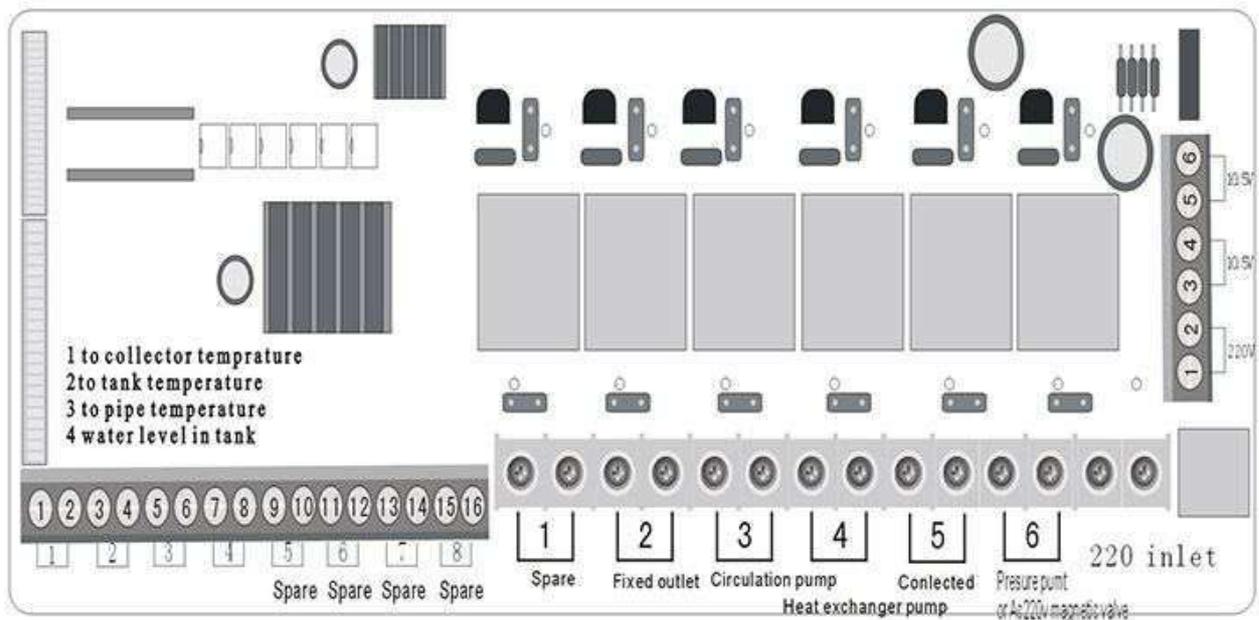


Diagram for control system



Basic equipment

Metal spraying system	one set	Temperature	0~99℃
Water level sensor	one pcs	Pressure pump power	220V 1.5KW
Temperature sensor	Three pcs	Pump power	220V 1.5KW
Inspected water level	Above 25cm	Electrical power	(up to customers)
Water level	1H~5H	Input power	380V / 220V 50HZ

Working condition

- 1、 2000 meters under coastal line
- 2、 Temperature of inner system-10℃ ~50℃
- 3、 Relative air humidity above 90%
- 4、 Without any corrosive gas

Product Guarantee Card(Qualification)

Customer Name		Adress	
Post Code		Telephone	
Seller		Inv. No	
Time		Install time	

Attention

It is assured that product can be retured, exchanged and maintained within one year exclusive of force majeure and human factors.
 If maintainance is needed, please fill this card together with package of troubled system. It is subject to the card and phurchase invoice (or receipt). Offices in local market will be responsible for distributors.
 And distributors are in charge of after sales service for customers, If possible, distributors and customers can also return our company directly.

Detail dproblems

Signature of distributor:

Remarks: Please specify the problems and working condition when arise

Mould	Project 1	Inspector	A1	Product Number	
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Time of EXW

Manufacturer: