Water Pump Controller Operation Manual

(Triphase series)

Read the manual carefully before installation

SIMPLE INSTALLATION GUIDE

1 | **Connect Wires** | Connect power wires and probe wires according to wiring diagram sketch.

2 | **Over Load Setting** | Press the 'Over load setting' button, and then press '▲/▼' button, adjust the over load current to you need, over load indication lamp flashes 3 times and then off .

3 | **No Load Setting** | Press the 'No load setting' button, and then press '▲/▼' button, adjust the no load current to you need, no load indication lamp flashes 3 times and then off .

4 | **Trial run** | Turn on the controller for trial run after installed and set up. If you meet any difficulty while trial run, please read the manual in 4 to 14 pages carefully or contact us.

For more details of operation, please read 4 to 14 pages, and take it as criteria!

⚠ CAUTION!

1. It must be complied with national electrician working instruction strictly while install. Don't work with electricity. Install it by specialized electrician, otherwise electric shock accident may happened.
2. The controller without leakage protector, it may happen serious accident, please install the leakage protector by yourself for safety.
3. If the controller without the air switch, please install the air switch by yourself, otherwise it may happen serious accident.
4. The over load current setting must be accorded with normal working current, otherwise can not protect effectively
5. Reset: When the motor over load or lack phase,Must be troubleshooting, and then press the "reset" button, the motor to return to work. If don't eliminate the failure, and start the motor, both controller and motor are easy to burn out.
6. If motor start or over load work frequently, must select an intelligent pump controller which the power is stronger than the motor power, otherwise the motor may burned out or happen accident (e.g. the motor power is 4KW, the controller power should be 7.5KW).
7. In general, the controller can protect the motor when it works under ordinary situation (e.g. over load protection, lack phase protection etc.), it works well in some cases, so that it would reduce the rate of repair, but it is not mean that it can protect the motor does not burn out in any case, such as motor quality problem or lightning strike.
8. We only guarantee maintenance for his controller. If the motor still has failure or burn out, we will not compensate or repair. In addition, we are not responsible for the consequence which made by the controller failure, such as basement is flooded while drained water or other liquids.
9. Installation condition:
   It must be installed in doors, keep away from sunshine and rain.
   Temperature: -10℃-40℃   Humidity: ≤90%   Height above sea level: 2000m

I PACKING

Water Pump Controller	Operation Manual	Probe	Screw and Rubber Plug
1 Set	one	3 Pcs	4 for each

II FEATURES

◆It works by digital chips, act the function of up/down liquid level and pressure control into a role.

◆Set a key tuning and manually set in one.

◆It has over load, no load, lack phase and ultra low voltage protection etc.

◆Recovery time of no load can be adjusted (1-240 minutes).

◆5 times failure memory, easy to check the failure cause, the pioneer for this function.

◆Patent technical, monitor with AC digital signal, more exact data and probe is more durable than pulse signal monitor.
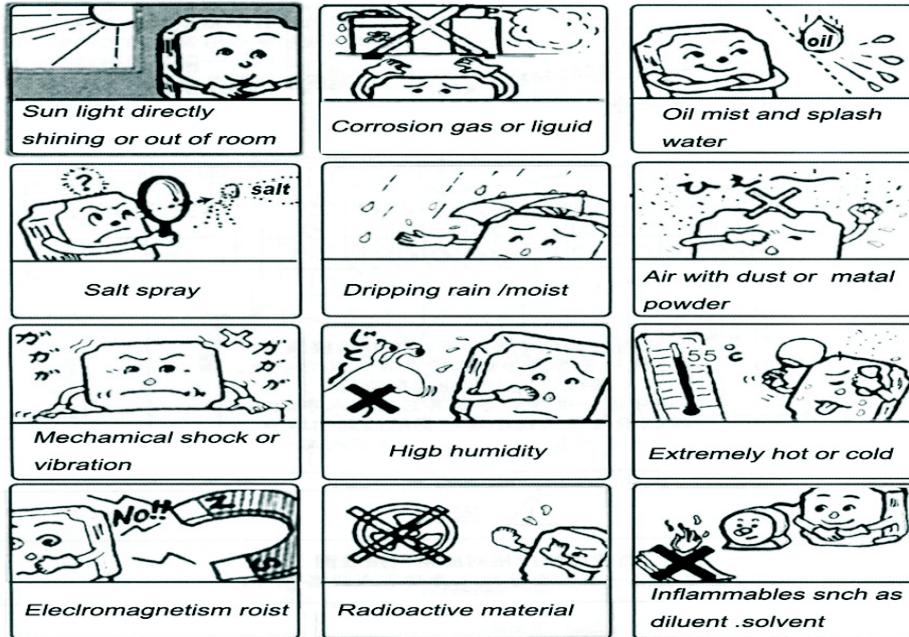
III MAIN TECHNICAL SPECIFICATIONS

1. The static power is less than 3.5W, dynamic power is less than 10W.

2. Factory default settings.

   a) The factory default setting of over load: set up 8A for 4KW motor.

   b) Set the no load current is 00.1A, recovery time of no load protection is 30 minutes.

3. Maximum control distance: 500 Meters.

4. Inverse-delay response characteristic against over load, time error within ±15% .

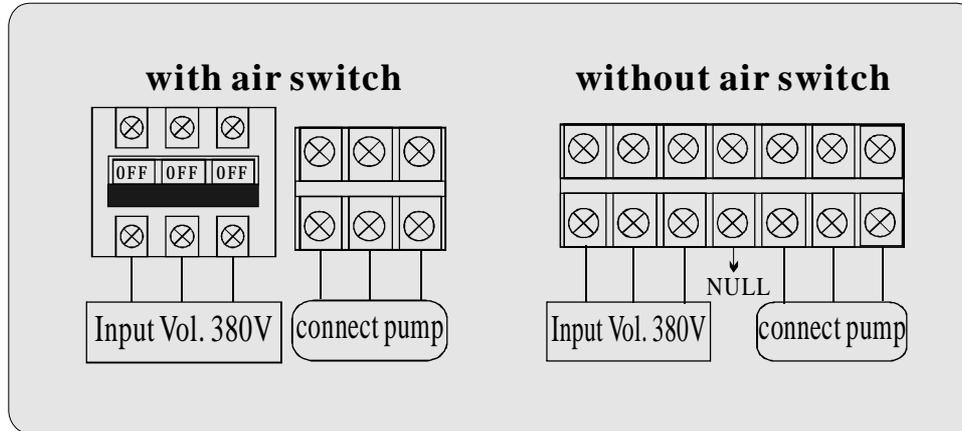| Over load multiples	1.2 time	1.5 time	2 time	3 time	5 time
Response time	50 sec	30 sec	15 sec	6 sec	1 sec

IV INSTALLATION GUIDE AND WIRING DIAGRAM

1. Fix the control on the wall, open the junction box, connect the power supply and pump wires according to the label.

   Note: Strictly forbid to install the control box in the places as following:

Sun light directly shining or out of room

Corrosion gas or liguid

Oil mist and splash water

Salt spray

Dripping rain /moist

Air with dust or matal powder

Mechamical shock or vibration

Higb humidity

Extremely hot or cold

Eleclromagnetism roist

Radioactive material

Inflammables snch as diluent .solvent

Power supply connecting sketch：

with air switch　　　　**without air switch**

Input Vol. 380V　(connect pump)　　NULL　　Input Vol. 380V　(connect pump)

2. Connect probe wires according to the following sketch if need. Please note that probe wires should not be short circuit and against the tank wall. Please make sure wrap wire connection well with waterpro of adhesive tape while extending the length of wires. (Should not connect water drainage tank wires if enable no load protection)

Probe wire wrapping:

Tear off the protected film of the
water proof rubberized tape before used

1. Wring

2. Wrap up water-proof rubberized

Water-proof rubberized

Tension to it's two times lenght

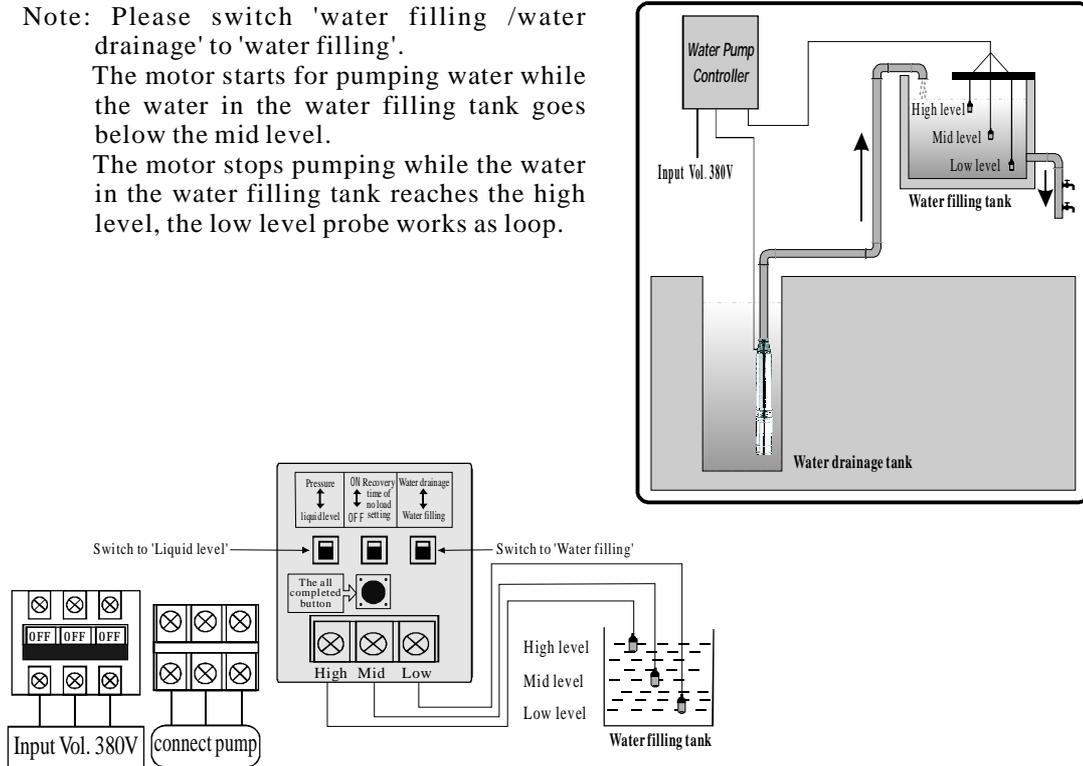3. Plastic-rubberized wrap up again

Plastic rubberized

A . Wiring diagram of water filling tank

Note: Please switch 'water filling /water drainage' to 'water filling'.
The motor starts for pumping water while the water in the water filling tank goes below the mid level.
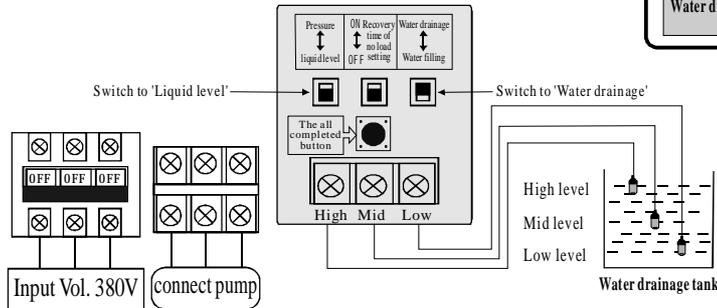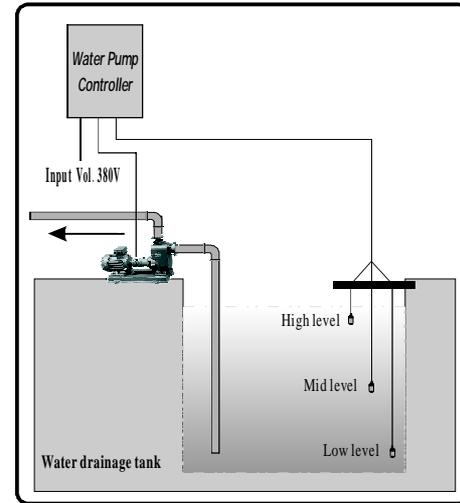The motor stops pumping while the water in the water filling tank reaches the high level, the low level probe works as loop.

Water Pump Controller

Input Vol.380V

High level
Mid level
Low level

Water filling tank

Water drainage tank

Pressure ↕ liquid level

ON ↕ OFF Recovery time of no load setting

Water drainage ↕ Water filling

Switch to 'Liquid level'

Switch to 'Water filling'

The all completed button

High   Mid   Low

OFF OFF OFF

Input Vol. 380V

connect pump

High level
Mid level
Low level

Water filling tank
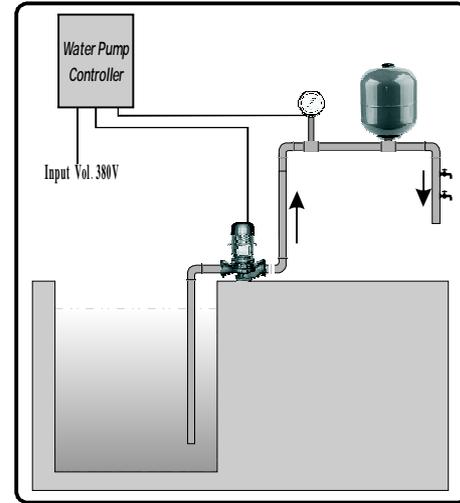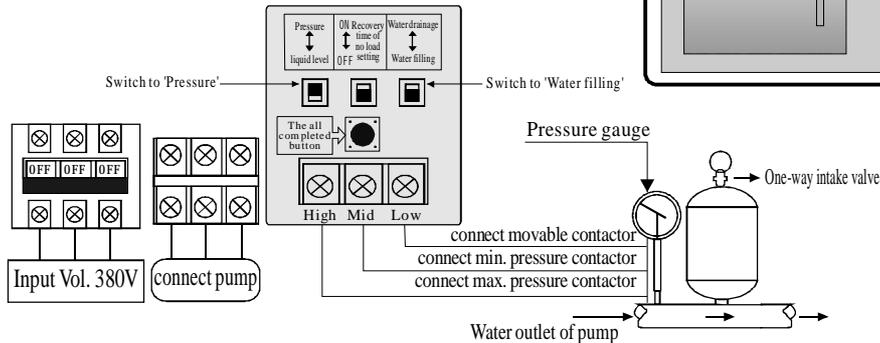
B. *Wiring diagram of water drainage tank*

Note: Please make sure switch 'water filling /water drainage' to 'water drainage '. The motor starts pumping while the water in the water drainage tank reaches the high level. The motor stops pumping while the water in the water drainage tank goes below the mid level, the low level probe works as loop.(No load current be set up 0.00A)

Because the sewage has strong corrosiveness, we suggest user equip with float switch for monitor while use 'water drainage' for drain sewage, so as to the controller achieve the best control and protection effect.

Water Pump Controller

Input Vol.380V

High level

Mid level

Low level

Water drainage tank

Pressure ↕ liquid level

ON Recovery ↕ time of OFF no load setting

Water drainage ↕ Water filling

Switch to 'Liquid level'   Switch to 'Water drainage'

The all completed button

High Mid Low

OFF OFF OFF

Input Vol. 380V   connect pump

High level

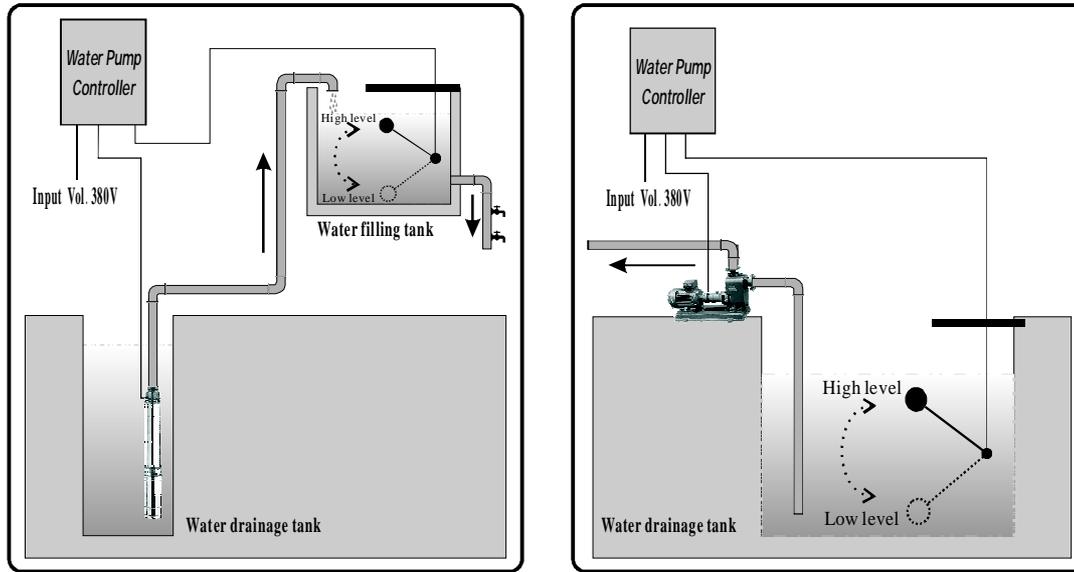Mid level

Low level

Water drainage tank
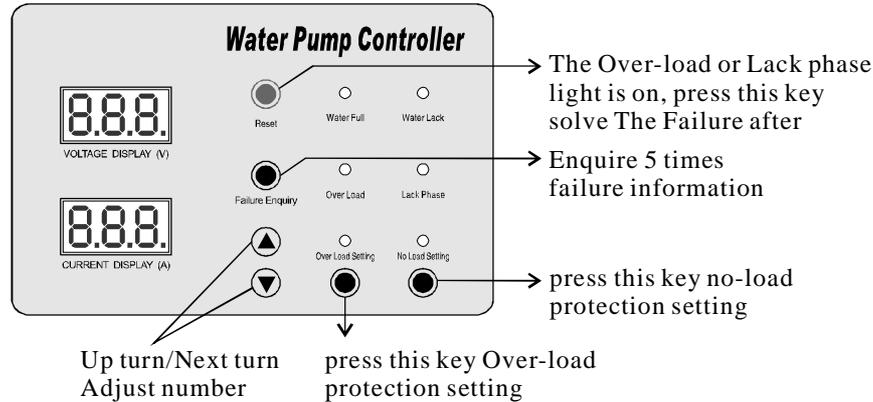
C. *Wiring diagram of stable pressure*

Note: Please make sure switch 'Pressure /Liquid level' to 'Pressure', and switch 'water filling/water drainage' to 'Water filling'. The motor starts while pressure drops to min. pressure contactor, stops while pressure rise to max. pressure contactor, the movable contactor works as loop. Please note that the pressure tank volume should be appropriate, it will lead to pump restarts frequently if the pressure tank is too small.

Water Pump Controller

Input Vol.380V

Switch to 'Pressure'

Pressure ↕ liquid level	ON Recovery time of no load OFF setting	Water drainage ↕ Water filling

Switch to 'Water filling'

The all completed button

High	Mid	Low

OFF OFF OFF

Input Vol. 380V

connect pump

connect movable contactor
connect min. pressure contactor
connect max. pressure contactor

Pressure gauge

One-way intake valve

Water outlet of pump

C . Wiring diagram of float switch

V BRIEF FUNCTION, SETTING PARAMETERS GUIDE

Water Pump Controller

VOLTAGE DISPLAY (V)

CURRENT DISPLAY (A)

Reset — Water Full — Water Lack

Failure Enquiry — Over Load — Lack Phase

Over Load Setting — No Load Setting

The Over-load or Lack phase light is on, press this key solve The Failure after

Enquire 5 times failure information

press this key no-load protection setting

Up turn/Next turn Adjust number

press this key Over-load protection setting

1. Start: After connecting all wires, switch on the air switch, then control panel switch to "ON", the pump start. please pay attention to the safety as it's with electricity.

2. The all-completed button: After the water pump work normally, the controller can automatically set up overload and the noload electric current once the user press down the button, which is simple and convenient. User can also carry on the overload and the idling establishment on the kneading board manually.

SET: After 1 minute's normal work, press down the "button". The "over load setting" and "no load setting" the lamp is off after flashes 2 times, which means it is ready.

Note: The all-completed button has memorized the over load and the no load electric current, and it will basically meet the operation requirements of the user communities. Higher request like no load the resetting time, the over load / no load manual setting can be achieved according to below 6th, 7, 8, 10 methods carried on the setting.

3. Lack phase protection：any phase in 3 phase is suddenly lack, the controller will cut off the pump power supply in 3 seconds.

4. Weak voltage protection: While the input voltage is less than 140V, the controller will cut off of the pump power supply in 30 seconds, and express it as that voltage and current shows same value.

5. Water filling/Water drainage: While switch to 'Water filling', it means the controller controls water filling by 3 probes connect high/mid/low terminals. While switch to 'Water drainage', it means the controller controls water drainage by 3 probes connect high/mid/low terminals. (the factory default setting: Water filling)
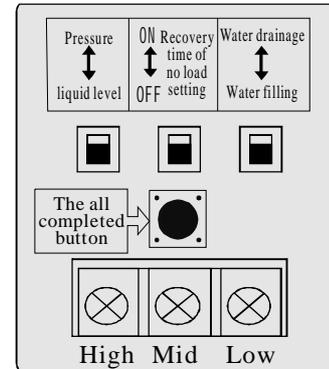
6. Over load protection: The control has the inverse lag response characteristic, the heavier the over load current, the faster the motor stop.

   Over load current setting:

   1) Turn on the controller, make the pump run, and write down the working current of pump. (Suggest this way)
      The over load current also can be set up according to the motor power, single phase motor power multiply 5, for example: motor power is 5.5KW, 5.5KWx2=11A (it's the over load current).

   2) Press the 'Over load setting' button, the corresponding indicator lamp is on, the current display shows the former over load current.

   3) And then press '▲/▼' button, adjust the over load current to the one you wrote down.

   4) It is ready while the lamp is off after flashes 3 times.

7. No load protection: under water drainage situation, if the water drainage tank is lack of water or water supply is not supplied water, the controller will shut off the pump in 10 seconds. While the water in the water drainage tank reaches the permission level or the pipeline restarts to supply water, the pump will start for pumping water (when the controller is under no load protection, it will check the water level every 30 minutes one time, and restart pumping water at once if the water reaches permission level).

Note: The factory default setting for no load current is 00.1A, the controller can not be controlled by water drainage tank probes under the situation. If it needs controlled by water drainage tank probes, please adjust the no load current to 00.0A.

No load current setting:

1) Please close the water supply at first, make the pump no load run, write down the working current(Suggest this way).

The no load current also can be set up according to the motor power, for example: motor power is 4KW, 4KWx2x0.85=6.8A (adjust it to 6.8A),

2) Press the 'no load setting' button, the corresponding indicator lamp is on, the current display shows the former no load current.

3) And then press '▲/▼' button, adjust the no load current to the one you wrote down..

4) It is ready while the lamp is off after flashes 3 times.

8. Recovery time of no load setting:

Enable no load protection, the water drainage tank can no be monitored by liquid level, the controller will restart to check whether has water after a certain time. If no water, the controller will shut off the pump for protect it. The factory default setting of interval time is 30 minutes, user can adjust it from 1 to 240 minutes.

Interval time of no load restarting setting:

1) Turn on the controller, the probe panel's "no-load delay settings" switch to the ON, the corresponding lamp is on, the current display show the no load restarting time, unit is minute, the voltage display show the former time.

2) And then press '▲/▼' button, adjust the time to you need.

3) It is ready while the lamp is off after flashes 3 times.

Suggestion: Set the time from 15-30 minutes, it will cause the motor restart frequently if the time is too short.

9. Pressure or liquid level control selection: switch 'Pressure/Liquid level' which in the probe chip to 'Pressure', it is controlled by pressure and controlled by liquid level while either.

Pressure connecting: read the 'Wiring diagram of stable pressure'.

10. Failure enquiry: the controller memorized the latest 5 times failure parameter.

Failure enquire step: Press the 'Failure enquiry' button, the voltage display show the number, 001 means the latest failure, then press '▲/▼' button, the current display show failure details, and the corresponding failure indicator lamp will on. For example:

A. Over load indicator is on , the current display shows over load current.

B. Lack phase indicator lamp is on, the current display shows lack phase instruction: 011 means A phase lack,101 means B phase lack, 110 means C phase lack.

C. While the current display shows 111, lack phase indicator lamp is on, it means connection is not well or weak voltage, or motor restart frequently.

11. Reset: When the motor over load or lack phase, must be troubleshooting, and then press the "reset" button, the motor to return to work. If don't eliminate the failure, and start the motor, both controller and motor are easy to burn out.