FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

WATER LEVEL PUMP CONTROL WITH ALARM

CODE 438

LEVEL 1

This is a water level detector circuit for pump control and warning device for high or low water levels. Applications include controlling levels in header tanks, detection of overflow conditions and for warning of low water tank levels. The high level low level relay functionality is jumper selected. A jumper selected audible alert is provided by an on-board mini sounder.

Technical Specifications:

- Power supply : 12VDC.
- Consumption : max. 150mA. (working), max. 11mA. (standby).
- Can be set the operation of relay and alarm sound when the water in tank is full or empty.
- Loading : 1A.
- PCB dimensions : 2.64 x 1.87 in.

Circuit Assembling:

External connecting and fitting of components are shown in Figure 1. It is recommended to assemble the circuit starting with a lower component first i.e. diodes, resistor, electrolite capacitors and transistors etc. Be careful while assembling and check for the matching of PCB poles and components before soldering as shown in Figure 2. Use a max. 40W. solder and soldering lead with a tin and lead ratio of 60/40 together with a joint solution inside. Recheck the assembled circuit for your own assurance. Better using a lead sucker or a lead wire absorber in case of misplacing component to protect PCB from damage.

How to Work:

The circuit diagram is shown in Figure 3. SENSOR point will check the water level. When SENSOR detects the water in pipeline or tank is empty, TR1 and TR2 aren't working, causing TR3 is working. Whenever SENSOR detects the water in pipeline or tank, TR1 and TR2 are working, causing TR3 not working.

Using:

Supply 12VDC to the circuit that having connected positive pole to position +12V and negative one to position G. Adjust VR to middle point.

1) In case of setting the alarm when water decrease, (See Figure 4), jump BZ and RY to L position. Connect the electric wire between sensor point and the water level point. When the water is lower than the set level, relay and alarm will be working. If the water is higher than the set level, both relay and alarm will not working.

2) In case of setting the alarm when water overflow, (See Figure 4), jump BZ and RY to H position. Connect the electric wire between sensor point and the water level point. When the water is higher than the set level, relay and alarm will be working. If the water is lower than the set level, both relay and alarm will not working.

3) In case of setting the alarm to check the water flow in the pipe and the emptiness of the tank, (See Figure 5), jump BZ to L and RY to H positions. Then connect the electric wire to the water level in the pipe. The pump will be working when the water is flowing, when the water stop flowing the alarm will not working.

NOTE: This circuit can be used with the maximum 200 watts water pump only. If over 200 watts, the magnetic contactor should be added. (See Figure 6).

FK438

NO.1

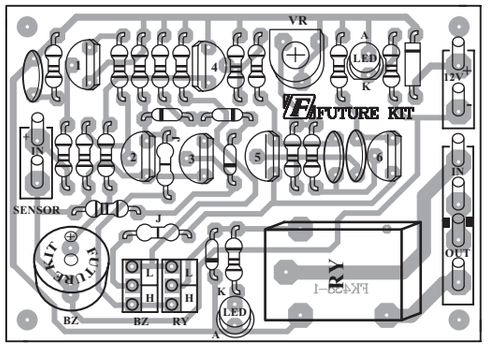
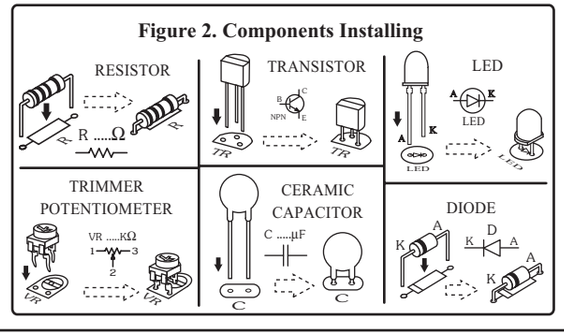
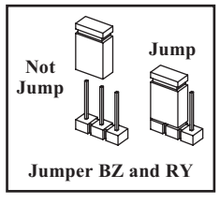
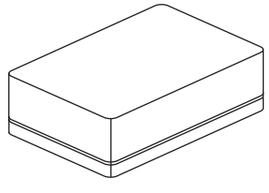


Figure 1.
Circuit Assembling







NOTE:

FUTURE BOX FB03 is suitable for this kit.

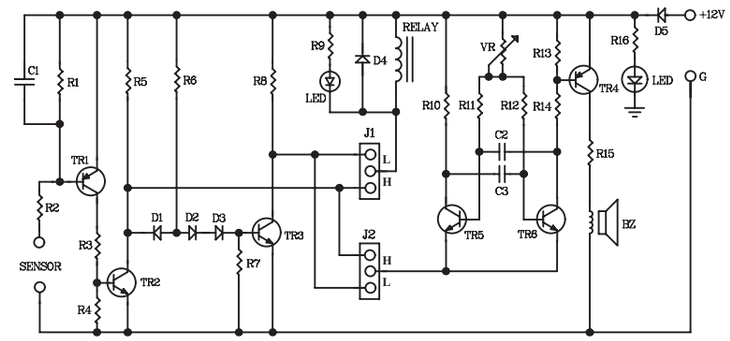


Figure 3.
Water Level Pump Control With Alarm Circuit

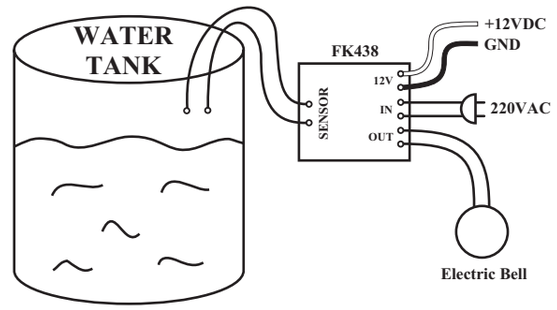


Figure 4.
Installation for Water Level Alarm

- Water overflow, jumping RY and BZ to H position.
- Water decrease, jumping RY and BZ to L position.

Figure 5. Installtion for Control Water Pump (using not more than 200 watts)

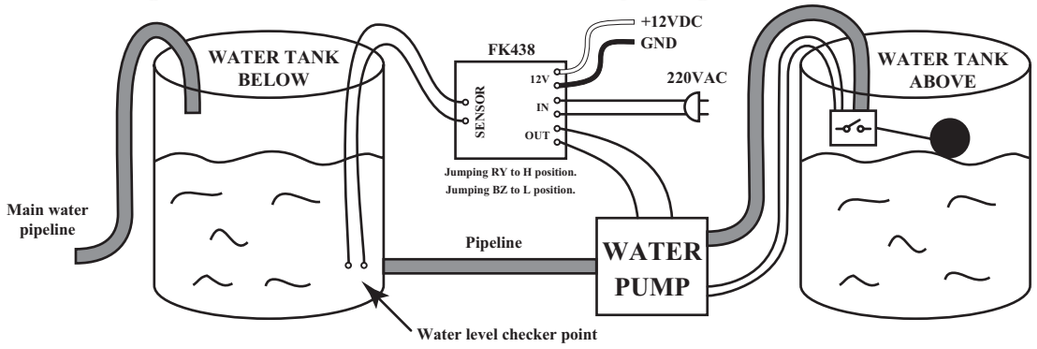
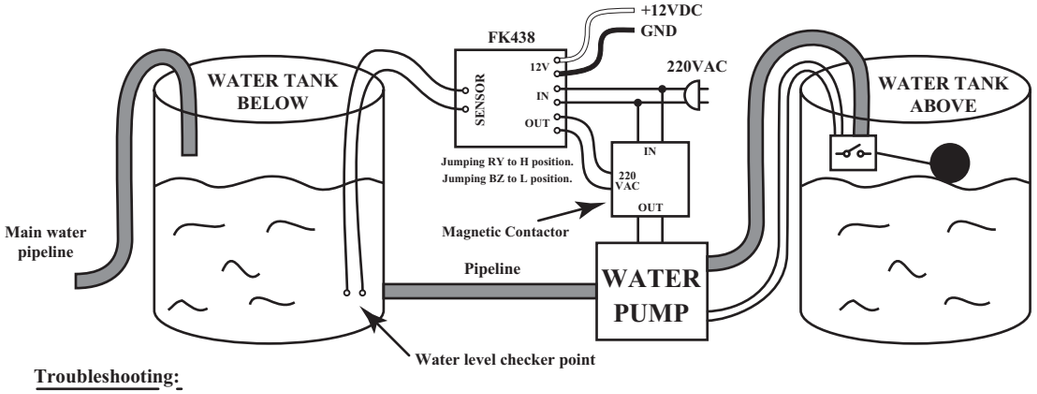


Figure 6. Installtion for Control Water Pump (using more than 200 watts)



Troubleshooting:

As the circuit has only a few components, the main cause of troubles will come from component misplacing and defaulted soldering. When found out that the circuit does not work, check for the proper component placings and various soldering points.