



FUTURE KIT

HIGH QUALITY ELECTRONIC KITS

WATER LEVEL INDICATOR 3 LEVEL

CODE 902

LEVEL 1

The water level indicator 3 level device is designed for measurement the water in a pool or tank by using LED to show the water level. The application is very convenience and the price is reasonable. It consist of a few components and can be unlimited decreased the water level.

Technical specifications:

- power supply : 9VDC.
- consumption : 25mA max.
- PCB dimensions : 1.24 x 1.74 inches.

How to works:

"P" point is connected to R 100 ohm to receive positive current. The voltage at "P" point is present with point one. Supposing the water is at 1 level, the current is transmitted through R 100 ohm through the water passed on R1 to the base of TR1. Then TR1 function and LED lights. If there is the water at all three levels, the voltage will flow from "P" point through the water that contains some resistance, passed on R1, R2 and R3 to the base of all TR resulting three LED to light at the same time.

PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

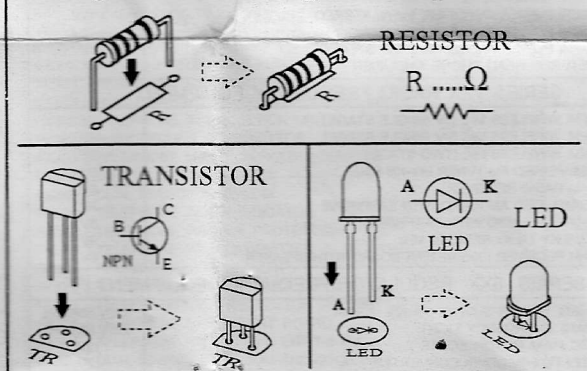
Testing:

Connecting the electric wires to "P, 1, 2 and 3" points. The colour of the connected lines should be

different to be clear. Remove the cover at the other end. Pour water into a glass. Place the "P" point on the glass and connect the power supply, 9 volts into the circuit. All three LED should not be lighted. Take the lines into the water glass so that three LED light.

The device can be connected to the position of water level. Supposing to measure the water in a tank, connect "P" point to the position near the bottom, the first position is near the bottom, the second is the middle and the third is near the mouth of the tank. If all LED light, this means that the tank is full with water. If two LED is lighted, this indicates that there is water more than half of the tank. Therefore if only one LED light, this shows that the water is less than a half. If none of LED is lighted, this means that the water is nearly gone. In the case where increase level position to 6, it must be connected of 2 sets. Connect both "P" near the bottom. After that connect the first imprinted connected pattern to 1, 2 and 3 position accordingly. The second one is connected to 4, 5 and 6 instead.

Figure 1. Installing the components



Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.

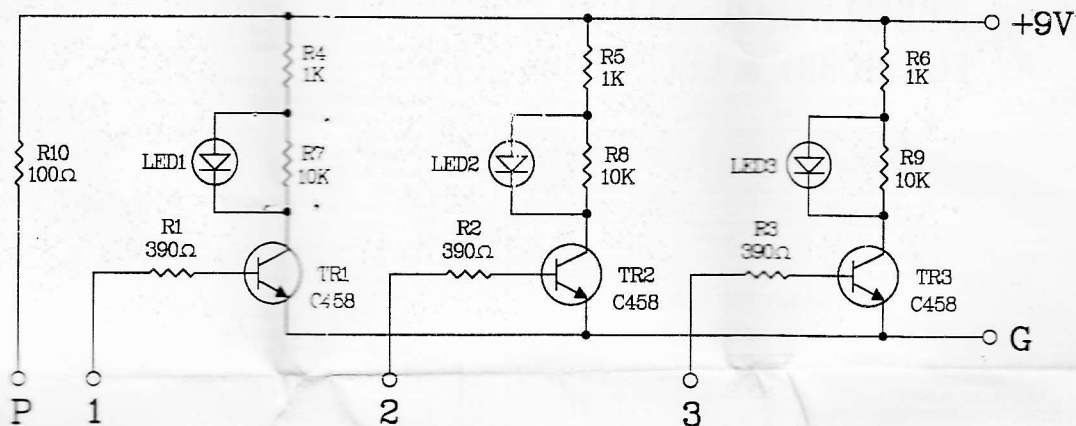


Figure 2. The water level indicator 3 level circuit

FK902-1

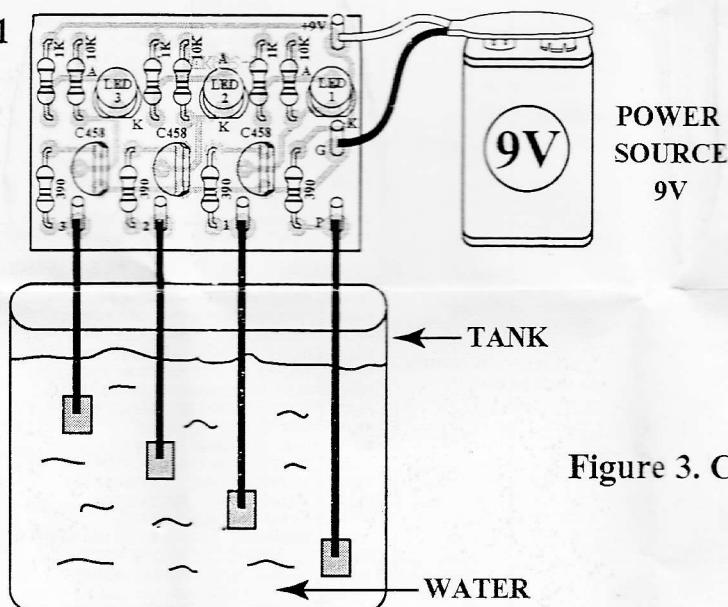


Figure 3. Connections

RESISTORS

| | | |
|-------|--------------|---------------------------|
| R1-R3 | 390 Ω | - orange-white-brown-gold |
| R4-R6 | 1k Ω | - brown-black-red-gold |
| R7-R9 | 10k Ω | - brown-black-orange-gold |
| R10 | 100 Ω | - brown-black-brown-gold |

TRANSISTORS

| | | |
|---------|---|-------------------------|
| TR1-TR3 | = | C458, C828, C945, C1815 |
|---------|---|-------------------------|

NOTE:

FUTURE BOX FB03 and FB08
are suitable for this kit.

NEW KIT SET

| CODE FK | DESCRIPTION | POWER |
|------------|---|-------------|
| 168 | NO SMOKING FLASHER 46 LED | 9-12VDC. |
| 169 | DANCING ROBOT FLASHER 33 LED | 9-12VDC. |
| 170 | DANGER FLASHER 42 LED | 9-12VDC. |
| 171 | TWO LAMP FLASHER | 3VDC. |
| 172 | THREE STEP FLASHER 19 LED | 9-12VDC. |
| 173 | HALLOWEEN PUMPKIN FLASHER 23 LED | 9-12VDC. |
| 174 | 5x7 ANIMATED LED SIGNBOARD | 3-5VDC. |
| 816 | VARIABLE REGULATOR 0-50V. 3A. | 50VDC. |
| 817 | TRANSFORMERLESS POWER SUPPLY 6-9-12V 50mA | 220-240VAC. |