

# DOWNLOAD PDF WATER LEVEL INDICATOR USING TRANSISTOR PROJECT REPORT

## Chapter 1 : Water Level Indicator | Playing with Systems

*water Level Indicator Project Report. supply are shorted by water the base of the transistor BC is pulled high by the calendrierdelascience.com* UCTION This circuit.

People generally switch on the pump when their taps go dry and switch off the pump when the overhead tank starts overflowing. This results in the unnecessary wastage and sometimes non-availability of water in the case of emergency. This water-level controller circuit makes this system automatic. It switches on the pump when the water level in the overhead tank goes low and switches it off as soon as the water level reaches a pre-determined level. Water-level controller circuit Water-Level Controller Circuit When there is enough water in the underground tank, probes C and S are connected through water. As a result, transistor T1 gets forward biased and starts conducting. This, in turn, switches transistor T2 on. Initially, when the overhead tank is empty, transistors T3 and T5 are in cut-off state and hence pnp transistors T4 and T6 get forward biased via resistors R5 and R6, respectively. As all series connected transistors T2, T4, and T6 are forward biased, they conduct to energize relay RL1 which is also connected in series with transistors T2, T4, and T6. Thus the supply to the pump motor gets completed via the lower set of relay contacts assuming that switch S2 is on and the pump starts filling the overhead tank. Advertisement Once the relay has energised, transistor T6 is bypassed via the upper set of contacts of the relay. As soon as the water level touches probe L in the overhead tank, transistor T5 gets forward biased and starts conducting. This, in turn, reverse biases transistor T6, which then cuts off. But since transistor T6 is bypassed through the relay contacts, the pump continues to run. The level of water continues to rise. Circuit Operation When the water level touches probe H, transistor T3 gets forward biased and starts conducting. This causes reverse biasing of transistor T4 and it gets cut off. As a result, the relay de-energises and the pump stops. Transistors T4 and T6 will be turned on again only when the water level drops below the position of L probe. Switches S1 and S2 can be used to switch on and switch off, respectively, the pump manually. Project Installation Water-level controller application You can make and install probes on your own as per the requirement and facilities available. However, we are describing here how the probes were made for this prototype. The author used a piece of nonmetallic conduit pipe generally used for domestic wiring slightly longer than the depth of the overhead tank. The common wire C goes up to the end of the pipe through the conduit. The wire for probes L and H goes along with the conduit from the outside and enters the conduit through two small holes bored into it as shown above. Care has to be taken to ensure that probes H and L do not touch wire C directly. Insulation of wires is to be removed from the points shown. The same arrangement can be followed for the underground tank also. To avoid any false triggering due to interference, a shielded wire may be used. More interesting projects available here.

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## Chapter 2 : How to Build a Home Made Water Level Indicator? Construction Explained

*This is a tutorial to build a simple water level indicator alarm circuit using transistors. It indicates different levels of water and raise an alarm upon getting the tank full.*

Once built and attached to your existing over head water tank, it will provide reasonably accurate indications of its level. There, we have seen how the proposed circuit is able to control the motor pump by switching it ON and OFF appropriately as per its settings and the water level of the tank to which it has been attached. But there may be folks who would be more interested to personally monitor the tank water level and toggle the motor pump accordingly. The present circuit would benefit them. The circuit presented here once built and installed will provide quite a satisfactory and reasonably fair indication of the water level present inside the tank through an array of 7 LEDs which are lit sequentially with the rise or fall of the tank water level. The circuit also incorporates a facility of an audio alarm indication in case the tank gets completely filled and is about to overflow. IC which is a quad 2-input NAND gate, forms the heart of the circuit and is wired as a level monitor. Each of these is configured to sense logic differences at their inputs. Since the two inputs of each of the gates are shorted, they also act as inverters and effectively invert any difference in the logic level sensed at their inputs. The output of each gate is connected to an LED. These LEDs are arranged in a straight line to form a sequential array. The inputs of each gate are clipped to an external stick in such a way that they cover the entire length of the stick with equal spacing. The length of the stick should exactly match the depth of the tank in question. The bottom most point of the stick is connected to the positive supply. Out of the 8 gates, one has been used to drive a transistor-coil oscillator. When the water touches point G tank full, the inputs of the gates which are connected to this point go low and their outputs become high. A transistor and a coil assembly connected to its output immediately becomes operative and starts to oscillate. The piezo connected to the transistor also starts vibrating accordingly to produce a sharp buzzing sound for the alarm. The center tap of the piezo provides the required feedback to maintain proper oscillations. The following construction clues will help you to understand better regarding how to build a water level meter. After completing the PCB assembly, connect the output wires to the appropriate points of the circuit. Now select a bamboo stick, chisel and carve it properly as per the depth of the water tank. Fix 7 brass screws into it and connect them to the wires terminating from the circuit board appropriately as shown in the circuit diagram. If a bamboo stick is not available then a PVC pipe normally used for electrical wiring will do the job perfectly. Enclose the circuit board along with the 9volt battery, allowing only the output wires terminating towards the stick. Also remember to stick the piezo as per the instructions on the inner surface of the box. Insert and fix the stick assembly on the inner surface of the tank, harness out all the wires cleanly up to the main circuit box. The circuit box may be fixed at some suitable safe place on the tank itself or somewhere near to it. Assuming the initial position of the tank to be empty, all the inputs of the gates are kept at logic high by its input resistors. If the tank is now allowed to fill with water, the negative supply at the bottom of the stick gradually connects with the inputs points of the gates one after the other as the water rises. The relevant gates immediately become logic low and go on to activate the output LEDs in a sequential manner. The gate whose input is connected to the top most point of the stick is responsible for activating the alarm once the water level crosses this point. If the water level is allowed to settle at a particular level, the gate input point which is situated exactly below this level on the stick will be held at logic high and its output LED will be illuminated to indicate the appropriate level correctly. Still have any doubt regarding how to build a water level meter? Jot in your comments comments need moderation, may take time to appear.

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## Chapter 3 : Water-Level Controller | Full Circuit Diagram with Explanation

*In this project we show the water level indicator using eight transistors which conducts as level rises, a buzzer is also added which will automatically start as the water level becomes full, auto buzzer start with the help of microcontroller.*

He was lost in his own world, when he crossed ways with Surya coming out of his class. Surya called Pugs, without any response. Where are you going? Whom were you remembering? Shall I call Simi? Where did she come in between? I was just joking. So, today your class was about transistors. Pugs took out the transistors, trying to check the number written on them. Can you check, Surya? Moreover, there are other variants as well, like BC 107 a low noise variant, BC 108 with both low noise and higher break down voltage. It is also NPN like the others. You have put the power line into the water. And more than that the current would be in micro amps, as it is the input to the base of the transistors. And that can be ignored – too small to observe in this noisy world. However, with hazardous liquids like petrol, even that may not be okay. A gold medallist from the Indian Institute of Science, Linux, mathematics and knowledge sharing are few of his passions. He experiments with Linux and embedded systems to share his learnings through his weekend workshops. Learn more about him and his experiments at <https://www.pugs.org/>: Send article as PDF.

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## Chapter 4 : Water Level Indicator Circuit Diagram-Liquid Level Sensor Project

*When water in the tank touches the probe A and B both, a small current flows from A to B through water and to the base of transistor T1 via a  $K \Omega$  resistor. As a result the transistor conducts causing the LED1 to glow.*

When the water is stored in the tank, no one can identify the level of water and also, no one can know when the water tank will fill. Hence there is an overflow of water in the tank, thus there is a wastage of energy and water. To resolve this type of problems by using the water level alarm circuit of a timer it helps and indicated the level of water in the overhead tanks. The cost of the water level alarm circuit low and its use full for the overhead water tanks, swimming pool boilers, etc.. The water level alarm circuits are used in the factories, chemical plants, and electrical substations and also in other liquid storage systems. What is a Water Level Indicator? The water level indicator is defined as a system which gets the information about the water level in reservoirs or in tanks which is used in homes. By using the water level indicator we can overcome the overflow of water from the tankers. It produces a clear sound when the water level reaches its level point. The power supply of the circuit is about 3V thus the circuit is quite handy to use. If the water is not up to the level of probes than the open circuit. Water Level Alarm Circuit Using timer If the water is not upto the level of probes than the open circuit astable multivibrator will not produce any oscillation. Thus, there is no sound produced by the circuit. If the water level reaches the probes then the current flows in the water, hence the sound is produced by the circuit. Now the buzzer will produce beep sound to indicate the water level is reached to the level. If the water is not up to the level of probes than the open circuit astable multivibrator will not produce any oscillation. If the water level rises in the tank, then the water comes into contact with probes which are from P1 to P7 and thus the pin 7 through 1 high sequentially. If the water level is at the final probe P7 then the sound is produced by the piezo-buzzer and it is connected to the output pin 16 along with the LED7. The following diagram shows the water level indicator circuit diagram consist of 4 probes which are placed in the overhead tank and interfaced with the port 2 of the Microcontroller. The positive voltage is placed at the bottom of the overhead water tank and full level probes are in the overhead tank and the other end is connected to the base terminal of the Q4 transistor with the help of the R16 resistor. When the water level in the tank is increased to maximum thus the current flows through the base terminal and the collector voltage becomes low and it is interfaced with the microcontroller port 2. The programming of the Microcontroller is ended and data can be transferred for the Microcontroller and LED. Automatically the motor switches off if the level of water indicates the D1. When the water level goes below the full-level probe, then the base of the second transistor Q2 opens by switching it off. These are interfaced with the Microcontroller ports like P2. Hence the transistor will be on and the motor will be on. The Microcontroller ports P0. To know the indication of the low level of water in the sump the P0. Water Level Alarm Circuit The electronic water level alarm circuit is connected to the alarm and it is placed at the above electronic water level circuit which is having the capability of alerting the person of a home. When the water level is at high or low or at exceed the higher limit. The following circuit diagram shows the water level alarm circuit. Water Level Alarm Circuit The water level alarm circuit is similar to the electronic water level circuit, but in the water level alarm circuit there is an alarm connected to the circuit. For an external level of water in the overhead tank, the sensing probes can show the suitable pins of the microcontroller. When these pins are high the control signal is passed from the Microcontroller to a speaker as well as LED indicator which depends on the Microcontroller program. The electronic water level alarm gives the information about the level of the water level of the water tank if the water tank is full or the water tank is empty. Hence, any person can identify the level of water. By using the liquid level sensor we can measure the level of water in the water tank. In this circuit, This circuit uses a liquid level sensor to measure the level of water in the water tank. The circuit produces the sound when the sensor senses a drop of a water leak. The circuit is very simple to build with the Microcontroller and also using basic electrical and electronic components. When the water reaches the sensor

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the reference voltage is below the minimum level and the IC drives the ceramic transducer to beep. The water level sensor circuit it is possible to use several sensors. The sensors can be easy to make a small piece of PCB which is etched with the proper pattern. Applications of Water Level Indicator The water level indicator is used in Hotels, Home apartments, commercial complex, and in factories. The pumps used in the water level indicator are single phase motor, submersible motor, and in three phase motor. By using the two motors, two sumps, two overhead tanks we cannot control by a single circuit. We can also measure the fuel level in motor vehicles The liquid level containers are huge in the companies Advantages of Water Level Indicator The water level indicators are low cost in the market Any person can identify the water level easily by hearing the beep sound By using this we can control the water level safely and easily The information in the article is about the water level alarm circuit using timer. Here is a question for you, what are the functions of the water level alarm circuit. He has 8 years of experience in Customer Support, Operations and Administration.

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## Chapter 5 : SIMPLE WATER LEVEL INDICATOR CIRCUIT USING TRANSISTORS | My Circuits 9

*level indicator project report using transistor PDF may not make exciting reading, but water level indicator project report using transistor is packed with valuable instructions, information and warnings.*

It will make you more comfortable Because it enables open & close water pump automatically. When full of water, was ordered off the water. But When levels gradually reduced To the required, Then turned on fully the water. So We do not have to worry about overflow and water out anymore. We have 2 circuits. First, using transistor version. Using transistors version The working principle As Figure 1 show working of circuit. In begin states when without water on a bucket. Both transistor Q1 and Q2 will not works. Because the base of both transistors not triggered from the common point. Which still connect positive voltage through R1. Figure 1 Simple automatic water level controller circuit And this result to both transistors no conduction. So current through R5 and D1 to trigger base of Q3, cause Q3 conducts current cause the transistor Q4 also works. When Q4 conducts current, LED1 will get a direct bias so glow, and relay-RY1 will pull in to contact continuously a water pump with the AC-line volts until water to low level L cause it as conductor of electricity to base of Q1 get bias and conduct current at collector so have voltage like ground. But Q3 and Q4 exist voltage at collector so there are voltage same the positive supply, the current will flow through D1 to trigger base of transistor-Q3, so begin cycle working new again. How makes it Because this project is a small and uses less equipment so easy to build you can assemble them on universal PCB. You need to put all parts in the correct position, and matches terminal according to Figure 3. The external wires should larger size In particular volts to load power should withstand a minimum of watts. The external 12V power supply adapter can be used from anywhere but must be able to supply up to mA. In real deployment must bring them mount in the box neatly and securely. Put it in a box must be steel or plastic. But must be durable. Testing Figure 4 completely this project ready to test. Remember, in testing circuit, do not connect input and output to ACV to this project, because may be the danger while testing them. If not constitute any part of an error, the result follows. Firstly, when applying a 12V power supply into the circuit. The LED1 will glow and the relay will work. Now all three terminals are connected to each end. As a result, the relay stops working and LED1 goes off. As video below, I am testing this project. The Parts list Q1-Q3:

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## Chapter 6 : Simple Water Level Indicator Alarm Circuit Diagram

*Simple Water Level Indicator By Abhay Bajpai Electronics, Hobby Circuits, Projects LED, Level, Transistor, Water 26 Comments We have already posted about a Water Level Indicator and Controller using PIC Microcontroller.*

Color of your choice Notes: Use a transformer with 6V mA output for power supply. Do not use a rectifier! We need pure AC. Use good quality insulated Aluminum wire for probes. If Aluminum wires are not available try Steel or Tin. Copper is the worst. Try the circuit first on a breadboard and if not working properly, make adjustments with the resistance values. This is often needed because the conductivity of water changes slightly from place to place. The calibration for simple water level indicator levels will vary according to the medium of liquid whose level is to be calculated. The type number of the transistors used here are not critical and any small signal NPN transistor will do the job. The circuit can be enclosed in a plastic box with holes for revealing the LEDs. Water Level Indicator This is the most basic form of water level indicator used for measurement. The circuit is fully based primarily on transistors. The sensing section is somewhat similar to this circuit but there is additional circuitry for switching the pump ON when the water level falls below a set level and the pump will be switched OFF when the tank is full. A few transistors, one IC and an electromagnetic relay are used for realizing the control section. The circuit is very simple cost-effective, reliable and many guys have successfully assembled it. The level sensor section is finished and now I am working on the control circuitry. I will add the circuit here as soon as it is finished Note: This water level controller monitors the level of the overhead tank and automatically switches on the water pump whenever the level goes below a preset limit. You may see the circuit and try it. More Water level controller projects Here is a large list of all our water level related projects;

## Chapter 7 : WATER LEVEL INDICATOR

*hi dear.i have a project water level indicator using a 3 transistors with 3 leds at the course of "lab view ",but i don't know how to make the lab view of this project using a daq,so can you help me by sending the labview implementation at my email calendrierdelascience.com@calendrierdelascience.com*

## Chapter 8 : Water Level Indicator Alarm Circuit Working And Applications

*In our project "water level indicator" there are 3 main conditions: There is no water or very less water available in the source tank. Intermediate level. There is ample amount of water available in the source tank or about to overflow. So let us discuss on the more about these 3 conditions.*

## Chapter 9 : Automatic water level controller | 2 circuits choice | calendrierdelascience.com

*The water level alarm circuit is a simple mechanism to detect and indicate the level of water in the overhead tank and also in the other containers. Nowadays, all the householders/owners are storing the water in overhead tanks by using the pumps.*