

# SENSOR ACTIVATED WATER STORAGE TANK FOR MULTI STOREY BUILDING

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## ABSTRACT

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This project is all about the water storage of high-rise buildings like hotels and condominiums, where the water level in the storage tank is controlled by a sensor circuit and 2 sensors. When the water level in the storage tank drops to the minimum level, a pump will pump water from the suction tank at the ground level up into the water storage tank at the top of the high-rise building until the storage tank is full.

The pump is needed to pump water up to the storage tank because for high-rise buildings, water pressure is not strong enough to force water up to the storage tank at the top of the building by itself. With the use of the pump, a device is needed to control the pump. The pump has to be turned on when water level in the storage tank is low, or else there will not be sufficient water supply for the building, and must be turned off when the tank is full, or else the storage tank will overflow. This is when the sensors and the sensor circuit come into play.

Each sensor consists of 2 metal plates arranged in parallel, with a gap in between the plates. They are placed in the storage tank to detect the maximum level and the minimum level of water in the storage tank. When water in the storage tank reaches the **maximum level**, the sensor circuit will turn **off** the pump. When water in the storage tank drops to the **minimum level**, the sensor circuit will turn **on** the pump. The pump will then start to pump water from the suction tank at the ground level up into the storage tank above the building.

The sensor circuit is able to determine whether the water level in the storage tank is at the maximum or at the minimum, or whether it is at the medium level. When water level is below minimum, the sensor circuit will light up the red LED, and when water level is medium, the circuit will light up the green LED, and finally, when the storage tank is full, the sensor circuit will light up the blue LED. We are able to know the water level in the storage tank by looking at the LED indicators.