**AQUARIUM PROBE**

ABSTRACT

In Aquariums, constant monitoring of temperature by humans is a tedious process. Similarly the amount of dissolved solvents in water th. The circuit of aquatic probe described here can monitor the temperature of water and correct the variation in temperature. The circuit also monitors the density of water and controls the density within a certain limit.

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INTRODUCTION

**A** number of environmental factors including light and temperature affect

fish culture. The temperature of water has profound effect because fish cannot

breed above or below the critical temperature limits.Temperature between 24°C

and 33°C is found to be the best to induce spawning in fishes. This particular

temperature range is also necessary for the healthy growth of nursery fish

fries (young fishes). Rise of water temperature due to sunlight may adversely

affect the fish rearing process.Also the excessive impurities that are present in the

water may affect the health of the fishes.

The circuit of aquatic probe described here can monitor the temperature

of water and correct the rise and fall in temperature through a motor driving water

. A readily available thermistor is used in the circuit as the temperature sensing

probe. The resistance of the thermistor depends on the temperature in its

vicinity.A TSOP module is used to check the variations in the water density.

BLOCK DIAGRAM

BLOCK DIAGRAM DESRIPTION

The circuit has thermistor as the temperature sensor.The resistance of the

thermistor changes with variations in the temperature and so does the voltage.

The voltage produced is sent to the input of LM358. LM358 has two comparator

in it.one is used to check the upper cut off level while the other is used to check the

lower cut off level.thermistor voltage is set as one of the input and a reference

voltage is set as the other input.if the output of LM358 becomes high then the

relay turns on and drives the motor.

Similarly the TSOP module detects the variations in the light intensity when it

passes through water.the IR LED will produce the light required.the output form

the TSOP module is voltage and it gets amplified to the required level by

CA3140.the output from LM358 is compared with the reference voltage and if the

comparator output becomes high then the relay is switched ON and it drives the

motor.

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CIRCUIT DIAGRAM

