DESIGN OF INSTRUMENT OF SEA WATER TEMPERATURE MEASUREMENT WITH DEPTH VARIATION

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Purpose the design instrument of sea water temperature measurement with depth variation is; to know the function of microcontroller ATMega 8535, apply function of electro sensor and design the simple tool able to measure sea water condition. Ease of operating an electronic device is desire for consumers and researchers.

The research carried out by using experiment methods and implementing microcontroller and C language function as a central and data processing. As measurement temperature of sea water used IC LM35D sensor which has been covered glue gun in all its pin. Work concept optocoupler modification to able to measure position of temperature sensor in the water.

Result obtained from this study is standard deviation of data values 0.68 error 1.68% on measurements 15-90 cm with range 10 cm, and further, standard deviation values of temperature sensor 0.8 and error 1.63% on measurement 30-80^{0}C range 10 ^{0}C. Ratio the temperature in sea water around Poncan Sibolga Beach become decrease comparable with the depth. This case prove up that the temperature of sea water is different in every deepness layer.