

DESIGNING A TEMPERATURE MEASUREMENT SYSTEM WITH MICROCONTROLLER DISPLAY

Prepared by: Chan Zhi Weng

ABSTRACT

Temperature measurement system is a very important device in electronic studies. Every electronic device does produce heat when power is dissipated in it. When the temperature reaches a certain degree it tends to affect the operation of the whole circuit or even burn the device. So a temperature changes in a place or a circuit.

The thermometer we used now is not suitable for fast changes temperature measurement. When the temperature changes in seconds we would not be able to detect the changes by using only the thermometer.

There is also a type of protection produced for the safety of the electronic devices based on temperature which is the fuses. It is built with small thin wire, whenever power dissipated in it is too large the heat will burn the wire and the whole circuit will be cut off of voltage. But this is not enough as we do not know the temperature which burn wire or that when the wire starts to burn out the circuit already receives severe damage.

So a new device or a new system need to be build in order to measure temperature fast, continuously and accurate. The most important thing is it should be automatic. The temperature measurement system I construct do have the few features we needed for fast changes temperature detection, automatic and accurate.

This temperature measurement system includes three parts: analogue transducer, microcontroller and display units. Assembly language need to be written for the microcontroller while the two other parts are connected to the microcontroller through the interface