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# Notify boiling water by using TMP36 sensor

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## Abstract

These days, citizens have a lot of ways to get access to IT. In the past, they tended to neglect IT that was thought to be difficult. But, currently, everyone can manufacture and get access not only software but also hardware when he has an idea. Arduino is used. Rinnai had recently released new product named Smart Sensor Range. Safe consumer who gave priority to the safety made new trend gave attention to fire prevention and smart sensor range. The ones who buy gas range prefer safety to economic advantage and/or fire power. The safety system does not always prevent fire accident. This study makes design and produces alarm that perceives temperature of pot when boiling. Not only temperature sensor but also alarm sensor was used to make alarm of boiling water and to give convenient living life. The arduino can be used at practical life to make products for various kinds of people. The invention can give convenience to housewives at kitchen, children and many persons making use of gas range. Another function can be added to develop. This arduino can develop a lot of products by using the study and other designs.

**Keywords**: Notify boiling water, using, TMP36 sensor

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## 1. Introduction

These days, citizens have a lot of ways to get access to IT. In the past, they tended to neglect IT that

was thought to be difficult. But, currently, everyone can manufacture and get access not only software but also hardware when he has an idea. Arduino is used.

Rinnai had recently released new product named Smart Sensor Range. Safe consumer who gave priority to the safety made new trend gave attention to fire prevention and smart sensor range. The ones who buy gas range prefer safety to economic advantage and/or fire power.

The safety system does not always prevent fire accident. This study makes design and produces alarm that perceives temperature of pot when boiling.

## 2. Associated studies

Arduino is AVR based single board micro controller to do mutual reaction by switches and sensors.

In this study, TMP36 sensor was used to measure Arduino and temperature ranging from -45℃ to 125℃ to have output of analog signal.

The sensor with piezo buzzer makes sound at specific temperature. The piezo buzzer gives alarm sound that expresses output by digital signal to produce various kinds of sounds.

## 3. Design and implementation

The design and implementation are made by two sensor after making design of TMP36 sensor and piezo sensor. TMP36 sensor puts round area having half moon at bottom to connect ground, analog in , 3.3 and/or 5volts in order from left side. Piezo speaker has two pins at both sides to connect ground at one side and digital at the other side.

## 4. Conclusion

The experiment was done to prevent accident when safety was thought to be important. Arduino was used considering simple and practical use to conduct test by combining sensors. Not only TMP but also piezo was used. An alarm was used to inform the time of boiling when pot was put on gas range.

Not only temperature sensor but also alarm sensor was used to make alarm of boiling water and to give convenient living life. The arduino can be used at practical life to make products for various kinds of people. The invention can give convenience to housewives at kitchen, children and many persons making use of gas range. Another function can be added to develop. This arduino can develop a lot of products by using the study and other designs.

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