Abstract

In Automatic temperature controlled system as an microcontroller based embedded system is quiet interesting as well as very essential in the modern era. The basic and conventional system was manual and electromechanical. That’s why functionally it is required to establish an automatic system with control logic. Our proposed system will sense the environmental temperature and will take steps along with this temperature by control of switching fan, heater, air conditioner or fire alarm. Most of the manufacturing industries like chemical, petrochemical, food processing, pharmaceutical etc. temperature is one of the prominent factor to be control. Because in these kinds of industries some products need the required temperature to be maintained at highest priority otherwise the product will fail. So the temperature controller is most widely used in almost all the industries. In this paper, we introduce automatic temperature controller using DS18B20 digital temperature sensor and controller unit using PIC16F877A microcontroller with various useful and critical conditions. Supervisory Control and Data Acquisition System (SCADA) is widely used in industrial automation system. We have already
performed our system to operate as the way of SCADA and it can detect measuring parameters in real time operation and send it to the control station. If these parameters are not in sustainable level, it sends an alarm and indicating signal in control station rather than taking any kind of intelligent decision. But our proposed system can perform better than SCADA in real time operation with determining intelligent decision on the basis of real time situation. We used a Microcontroller to determine and processing the predefined system decision as like artificial intelligence system. Field of operation of our system can be extended by including more process parameter to operate this automation system.

References

9. “DS18B20 Programmable Resolution 1-Wire Digital Thermometer datasheet”, Maxim Integrated Products, 120 San Gabri el Dr ive, Sunnyvale, CA 94086 408-737-7600

Index Terms

Computer Science Circuits and Systems

Keywords
