

{tag}

{/tag}

[International Journal of Computer Applications](#)

© 2012 by IJCA Journal

Volume 48 - Number 18

Year of Publication: 2012

Authors:

Nungleppam Monoranjan Singh

Kanak Chandra Sarma

Nungleppam Gopil Singh

10.5120/7452-0633

{bibtex}pxc3880633.bib{/bibtex}

Abstract

This paper describes the design and development of low cost USB Data Acquisition System (DAS) for the measurement of physical parameters. Physical parameters such as temperature, humidity, light intensity etc. , which are generally slowly varying signals are sensed by respective sensors or integrated sensors and converted into voltages. The DAS is designed using PIC18F4550 microcontroller, communicating with Personal Computer (PC) through USB (Universal Serial Bus). The designed DAS has been tested with the application program developed in Visual Basic, which allows online monitoring in graphical as well as numerical display.

References

ences

- Mehmet Demirtas, Ibrahim Sefa, Erdal Irmak and Ilhami Colak, "Low-cost and high sensitive Microcontroller Based Data Acquisition System for Renewable Energy sources", International Symposium on Power Electronics, Electrical Drives, Automation and motion

(SPEEDAM 2008), pp 196-199. (IEEE Conference)

- B. Nkom, H. Musa, "Development of a Novel Microcontroller based Data Logger"; 2nd International Conference on Adaptive Science & Technology, ICAST 2009, pp 314-324. (IEEE Conference)

- Jason Bank, Benjamin Kroposki, "Development of a real-time, high-speed distribution level data acquisition system"; Innovative Smart Grid Technologies (ISGT) 2012, pp 1-6 (IEEE Conference)

- Mir Mohammad Nazmul Arefin, Mir Nahidul Ambia and Tanvir Ahammad, "Low cost design of a PC based integrated system for signal measurement and generating using microcontroller"; 2nd International Conference on Signal Processing Systems (ICSPS) 2010, V3 pp 747-751

- S. Li, Jiarong R. Luo, Yichun C. Wu, Guiming M. Li, Feng Wang and Yong Wang, "Continuous and real time data acquisition embedded system for EAST"; IEEE Transactions on Nuclear Science, Vol 57 No. 2, April 2010, pp 696-699.

- <http://zone.ni.com/devzone/cda/tut/p/id/2693>,-A Review of PC-Based Data Logging and Recording Techniques";

- N. Monoranjan Singh, K. C. Sarma, "Design of PIC12F675 based data acquisition system for slowly varying signals"; Journal of Instrumentation Society of India, Vol 40 No. 1, March 2010, pp 15-17

- <http://ww1.microchip.com/downloads/en/devicedoc/39632e.pdf> (datasheet for PIC18F4550)

- www.ti.com/lit/ds/symlink/lm35.pdf (datasheet for LM35)

- <http://sccatalog.honeywell.com/pdbdownload/images/hih-4000.series.chart.1.pdf> (datasheet for HIH 4000 Series Humidity Sensors)

Index Terms

Computer Science

Embedded System

Keywords

Data Acquisition System (das) Temperature Humidity Online Monitoring.

