

I2C PRESSURE MONITORING THROUGH USB PROTOCOL.

Product Details:

To eradicate human error while taking readings such as upper *precision* or lower *precision*

Embedded with JAVA Application:

Technology Used: Core Java (Swings)

- Desktop Application.
- Reading com port/USB port values from terminals.
- A rich set of graphical user interface (GUI) components that looks good in all platforms.
- A robust event-handling model.
- Making GUI for charts, graphs, Analysis etc.
- The pluggable look and feel lets you design a single set of GUI component that can automatically have the look and feel of any OS platform.

Hardware: PIC18F2550, SM5852-001 Pressure Sensor

Typical Applications:

Barometric measurement

Medical Instrumentation

Pneumatic control

Gas flow

Heating, Ventilation and Air conditioning (HVAC)

Description:

Pressure sensor is a monitoring tool which is used to calculate Air pressure and water Pressure using PIC 18f2550 micro controller. The micro controller is programmed to send 12c data on real time basis to the lap top/ pc. The pc has a program to process and view these signals in specified formats. We have 3 different sensors and will get 3 different sensor's inputs from PIC 18f2550 micro controller also we will get the minimum and maximum value from each and every sensor. First 2 sensors are operational types and we have to choose either one. From the selected sensor will get only Pressure value of water. Third sensor used to calculate the Air pressure value also it will always displays own value as well

SM852 -001

Features

- Digital correction algorithm for nonlinearities of temperature, supply voltage and pressure
- Supply voltage range: 4.5Vto 5.5V
- Embedded EEPROM for calibration coefficient storage
- Digital I²C interface
- Analog and digital output
- Operating temperature -40⁰C to125⁰C

Order Code	Pressure Type	Full-Scale Pressure Range	Tube Length
5852-001-D-3-LR	Differential	0.15 PSI / 1.0 kPa	Long
5852-001-S-3-LR	Single-ended	0.15 PSI / 1.0 kPa	Long

PIC18F2550 Features:

Universal serial bus features

10-bit, up to 13-channel Analog-to-Digital Converter module (A/D) with programmable Acquisition Time

Master Synchronous serial port (MSSP) module supporting 3-wire SPI (all 4modules) and I²C™ Master and Slave modes.

Software Features:

- 1, Pressure sensor is a monitoring tool which is used to calculate Air pressure and water Pressure using PIC 18f2550 micro controller.
- 2, First 2 sensors are operational types and we have to choose either one. Third sensor is a constant one and will be operating always.
- 3, The PIC 18f2550 micro controller will transmit some sort of noises along with the values in order to reduce the noise; we had used several algorithm techniques to filter the values without noise.
- 4, When we click anywhere on the monitoring frame the third sensor value that is displayed on the frame will get added to the list which is placed on the right hand side of the monitoring frame.
- 5, The Minimum value, Maximum value, Average, and Cumulative Frequency (CV %) are displayed on the right hand side of the list which are calculated depending upon the values that are added in the list.
- 6, The save option will save the right hand side content such as Address which is on top of the monitoring frame, user specified input boxes, Reference no, Date and the values that are added in the list and get printed in the user specified file format and saved in the user specified location.
- 7, The print option will also contain all the above specified values and print the contents directly to the user specified printer.
- 8, The login panel will be used only by the administrator to insert/update the default settings of the applications.
- 9, The Admin panel will contain the constant details such as A constant, B constant, C constant, low value, High value, Very Low value, Minimum, maximum for all the three sensors and the K constant will only be added to third sensor.

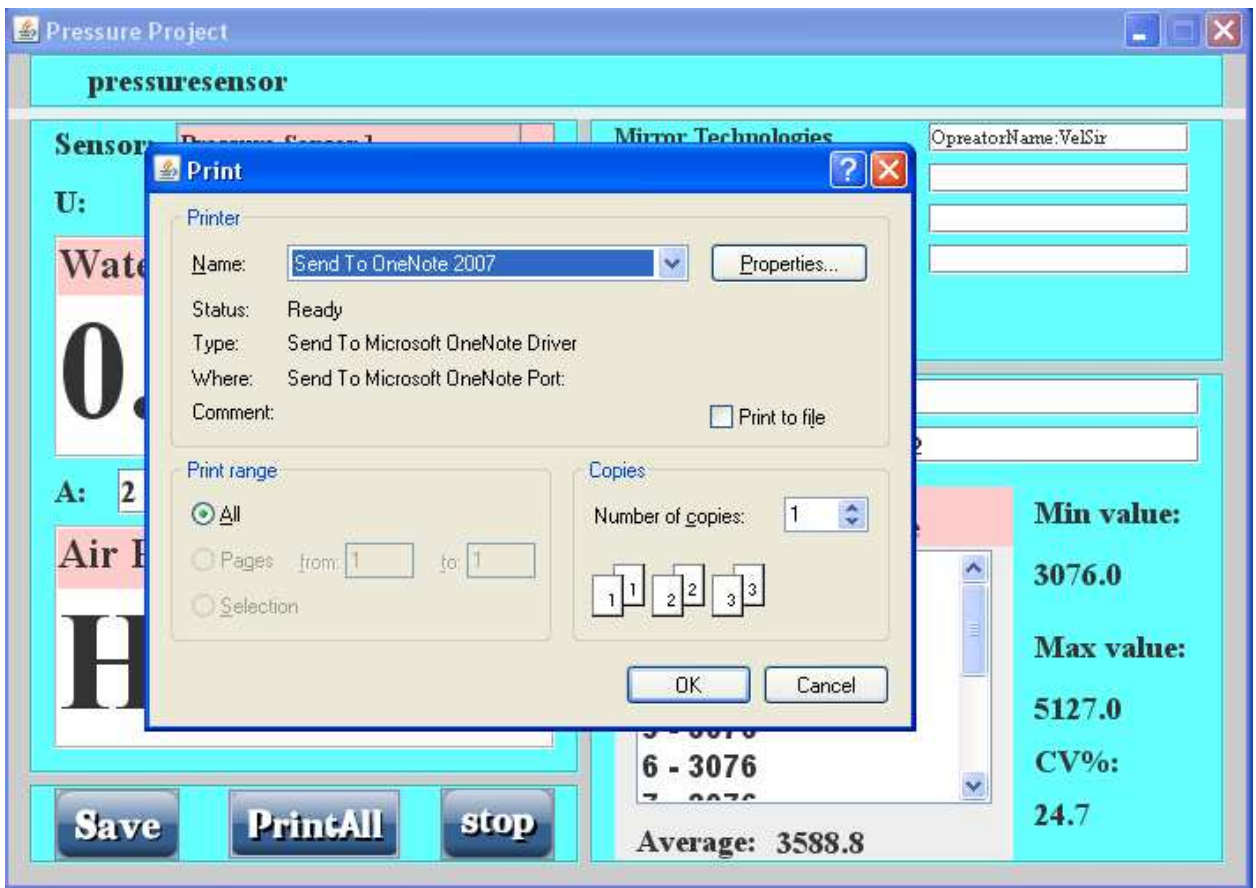
10, The Address & project title are also added to the administrator panel. These values are get saved in the separate configuration file.

1, Pressure Sensor Monitoring Frame.

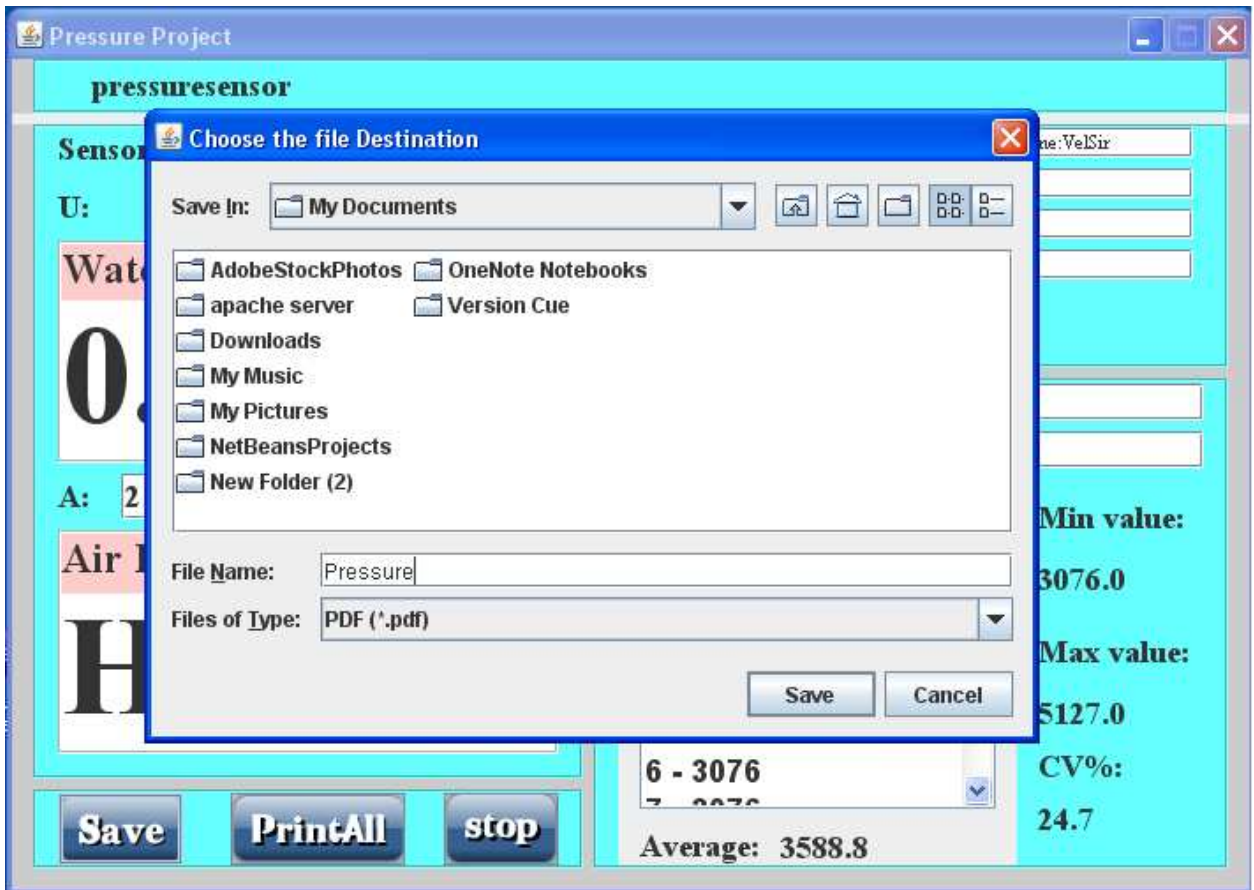
The screenshot shows a software window titled "Pressure Project" with a cyan header bar. The main content area is divided into several sections:

- Header:** "pressuresensor" in bold black text.
- Sensor Selection:** A dropdown menu labeled "Sensor:" is set to "Pressure Sensor 1". Below it, a text input field labeled "U:" contains the value "1".
- Water Pressure:** A large digital display shows "0.0".
- Air Pressure:** A large digital display shows "H 5127".
- Configuration:** A section for "Mirror Technologies," with an address: "#73 South Sivan Kovil S...", "100 Feet Road," "Near KMG Kalyana Ma...", "Vadapalani," "Chennai 600 026." To the right, there are input fields for "OpreatorName:VelSir" and other details.
- Reference and Date:** "Reference:" is set to "121" and "Date:" is "24-Sep-12".
- Calculated Values:** A list of values: "1 - 3076", "2 - 3076", "3 - 3076", "4 - 3076", "5 - 3076", "6 - 3076", "7 - 3076".
- Summary Statistics:** "Min value: 3076.0", "Max value: 5127.0", "CV%: 24.7", and "Average: 3588.8".
- Buttons:** "Save", "PrintAll", and "stop" buttons are located at the bottom left.

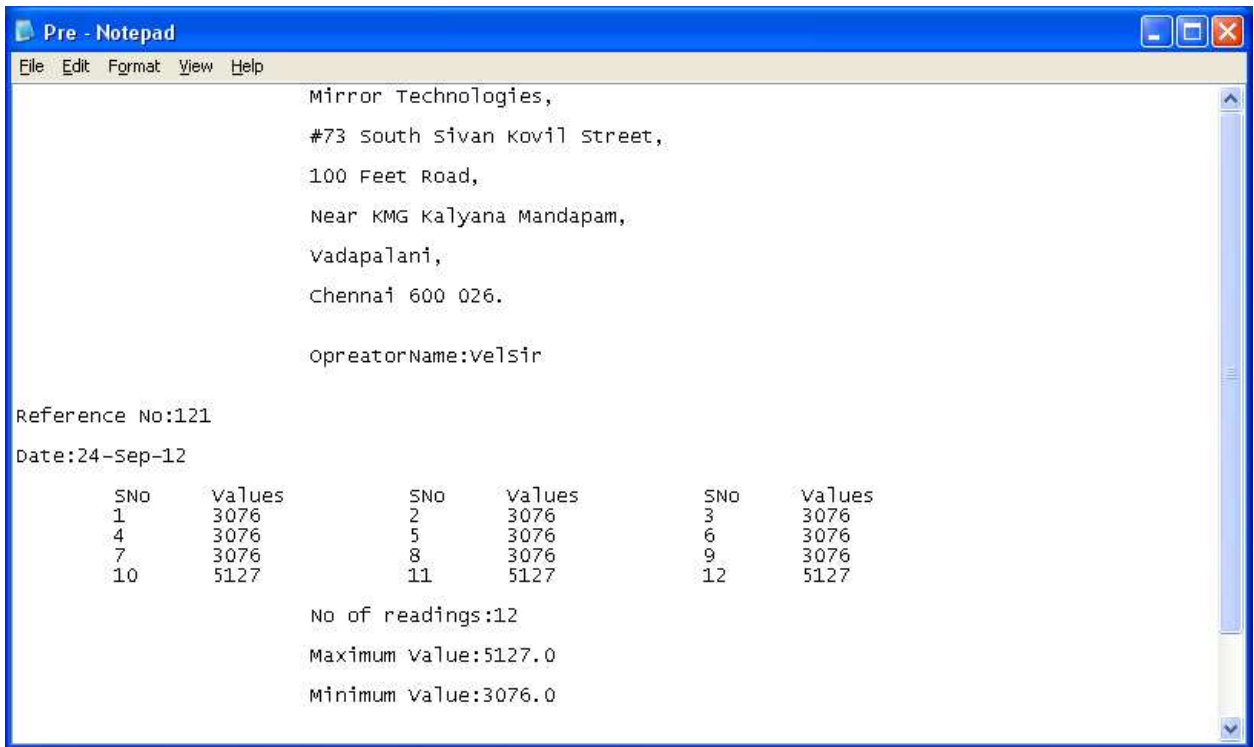
2. Taking Print out of selected value added on list on right hand side.



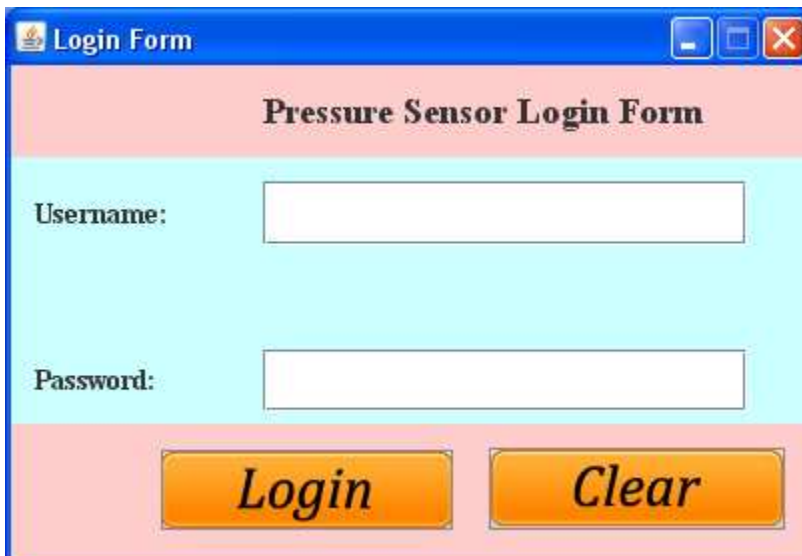
3, Saving as it as a file.



4, The saved file format as Text file (.txt).



5, Administrator Login Screen.



6, Administrator panel to fill customized details.

	SENSOR 1		SENSOR 2		SENSOR 3
a1	0	a2	1	a3	300.0
b1	-0.0648374	b2	0	b3	100.0
c1	132.764	c2	1	c3	47.0
Low y1	1	Low y2	4	Low y3	2
High y1	10.0	High y2	1	High y3	10.0
Very Low y1	10.0	Very Low y2	10.0	Very Low y3	10.0
Minimum	205.0	Minimum	205.0	Minimum	205.0
Maximum	3891.0	Maximum	3891.0	Maximum	3891.0
Presicison	1	Presicison	1	Presicison	1
ADDRESS:		K	1	Pressure:	Water Pressure
Mirror Technologies,		Near KMG Kalyana Mandapam,		Calculate:	Air Pressure
#73 South Sivan Kovil Street,		Vadapalani,		ProjectTitle:	
100 Feet Road,		Chennai 600 026.			pressuresensor

Save **Exit**

Contact Us:

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